AMATEUR RADIO

MARCH 1950

JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA

FOR THE EXPERIMENTER & RADIO ENTHUSIAST

9D.

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MARCH - - 1950

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MSS. and Magazine Correspondence should be forwarded to the Editor, "Amateur Radio," Law Court Chambers, 191 Queen St., Melbourne, C.1, on or before the 8th of each month.

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EDITORIAL

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Another year has passed and all Divisions are faced with the task of electing office-bearers for the ensuing year. Divisions which are blessed with plenty of enthusiastic members will have no difficulty in filling all posts; however, the less fortunate Divisions will have to depend upon the stayers to shoulder the load once again.

The Institute represents and upholds the interests of Radio Amateurs in Australia. We, as members of this vast brotherhood, owe much to the work of the Institute's office-bearers during the past twenty-five years. The least we can do to honor the memories of those pioneers of the past, whose keys have been silenced forever, is to carry on the work they so successfully began. Hence it behoves us all to share the burden of management by offering our services to the Institute whenever circumstances permit. We should all make some small sacrifice in the common good.

Younger members who have not the opportunity of gaining administrative experience elsewhere can, by acting as assistants, obtain much valuable experience as a reward for their services to the Institute.

It is only by the periodical change of office-bearers among all our members, that any suggestion of cliques can be disposed of and fresh approaches to stubborn problems made by fresh minds from new angles.

The encouragement and training of young, virile members willing to carry on the good work is the key to our future success. Those members who really have the interests of the Institute at heart will not leave it to the other fellow—something more concrete than lip service is required. Let us recapture the spirit of comradeship and endeavour to surpass the enthusiasm exhibited by the pioneers who raised the Institute's prestige to its present high level.

—G. G.

The Contents . . .

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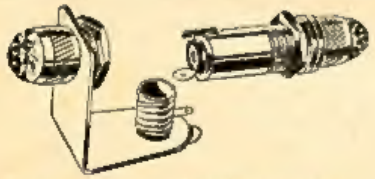

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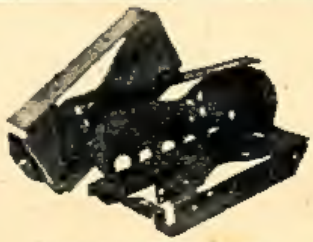

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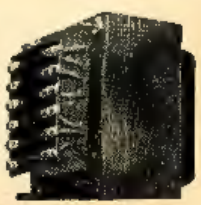

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Converting the BC966A I.F.F. Unit

AS A 144 Mc. PARALLEL OSC. AND SUPER-REGEN. RECEIVER

BY J. DUNCAN,* VK3VZ

This unit, now available to the Amateur, can be converted into a very nice 144 Mc. outfit, which can be used for both portable or home location work. In the form suggested it will consist of a parallel oscillator using 7193s, modulated by any suitable modulator, a suggested arrangement being a 6SH7 speech amplifier, feeding a 6V6G as modulator.

On the receiving side a 7193 is used as a super-regenerative detector, and two 6SH7s as audio amplifiers. If it is desired to use a speaker, the second audio stage could be changed to any suitable output valve.

GENERAL PRINCIPLES OF OPERATION

The I.F.F. Unit picked up the Radar pulse, triggered the transmitter, causing an identification pip on the scope. Two 7193s were used in parallel for transmission, and through internal arrangements, one was used as a super-regen. detector, with its companion 7193 biassed off, then when suitably triggered, both 7193s would transmit as a parallel oscillator, the frequency being varied throughout the band by a motor driven inductance loop.

The remaining 7193, in the end box, was used as an ordinary oscillator for identification purposes. The seven 6SH7s and three 6H6s were used in the various pulse circuits, and are of no use for our applications, so all wiring except filaments are removed from these tubes.

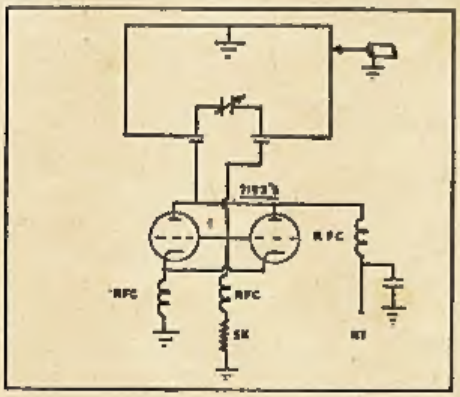

Fig. 1.

CONVERSION

The first step is to separate the power supply and r.f. sections, taking care to disconnect the arm which drives the oscillating inductance loop.

The box containing the two 7193s is altered first. This becomes the oscillator (see Fig. 1). Remove the 6H6 and its associated condensers and r.f. chokes. Take out the variable inductance loop and shaft. Remove the r.f. choke to one 7193 grid, and the wire going from this choke out through the hole in the box. Join the 7193 grids together. Trace the wire from the other 7193 grid, disconnect under the chassis, and connect a 5,000 ohm resistor from this point to earth. Remove the leads from the bottom ends of the r.f. chokes in the cathodes, ground one, remove the other, and join the cathodes together, after removing the small condenser between the cathodes.

Trace the h.t. lead from its r.f. choke and connect to a suitable point for h.t. of 250 volts. If it is desired to use one of the relays for changing from send to receive, this lead can be connected to a suitable point on the relay.

It is advisable at this point to check the operation of the oscillator, so remove all tubes except the two 7193s and apply filament and 250 volts of plate supply from a suitable source. Before doing so, however, it will be necessary to see if the filaments are wired in series or parallel, it varies in the different models. A meter in the grid circuit will give an indication of oscillation, and providing the previous instructions have been carried out the oscillator will work correctly. The oscillator frequency can then be adjusted to the 144 Mc. band by means of the ceramic trimmer on the inductance loop.

All that remains to be done is to provide a simple means of changing the frequency through the band. This can be done in two ways, either by making a small loop and fitting it in the place where the previous variable loop was mounted (the original loop had too great a variation); or by mounting a suitable variable condenser to give the necessary small frequency change.

RECEIVER

The 7193 in the box at the other end of the chassis is converted into a super regenerative detector by a few simple modifications.

First remove the 6H6 socket and all its associate wiring from the box, then unscrew the screws holding the front left hand corner and the rear right hand corner of the box, this will enable the front and right hand sides of the box to come away with its associate wiring. Cut off the wires going from the mounting strip on the grid side, remove the two small condensers, leaving the condenser which goes from the 7193 grid to the stator of the condenser. Fit a 5 megohm grid resistance across this condenser (the value of 1 megohm shown in the diagram of Fig. 2 was not large enough), and also remove the Hi-Lo switch, and its condenser and resistance.

Unsolder the existing tank inductance and wind one with about No. 14 gauge wire, identical in shape, but with one additional turn. Solder one of the 5 pF. condensers, removed previously, across this inductance. Re-solder the r.f. choke which connects to h.t. on to the centre of the coil, and by-pass as shown in Fig. 2 with a 0.001 uF. condenser. Remove the lead which connects to the cold end of the 7193 cathode r.f. choke and ground this end of the choke. It is most important that this cathode r.f. choke be used, otherwise difficulty will be had in making the tube oscillate. Re-assemble the sides of the box.

Two of the relays at the rear of the box are removed, and a suitable 3 : 1 audio transformer installed. The 20,000 ohm variable potentiometer is removed from its bracket and installed in any convenient place on the front panel as a regeneration control and connect to 250 B+ through a 10,000 ohm resistance. With a pair of headphones installed on the output of the transformer, the detector can be checked. As the regeneration control is advanced the detector should go into oscillation with the characteristic hiss of the super-regen. With a suitable piece of wire for an antenna, it should be possible to receive the harmonics of an alignment oscillator; the super regenerative hiss will die away when the signal is tuned in, if everything is working correctly.

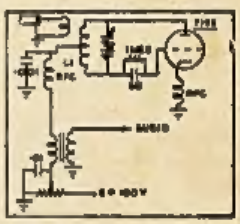

Fig. 2.—Grid resistance should be 5 megohms, not 1 meg. (see text).

The frequency can be checked with an absorption wavemeter, and the turns of the inductance compressed or expanded to enable the condenser to cover the band. It will just do this with a small margin to spare at each end of the band.

To enable a suitable dial to be fitted, the slotted bakelite knob is removed and an extension shaft fitted. The dial can then be fitted with a suitable calibrated scale if desired.

There is one point to watch. A shorting wire is connected across the co-ax socket inside the box of the single 7193 compartment, which is directly across the link to the antenna, its purpose is unknown to the writer, but it should be removed.

The audio stages of the receiver can best be left to the choice of the individual constructor, but plenty of sockets and 6SH7s are available for the purpose.

POWER SUPPLY

Here again no two Hams will think alike, but we can (a) remove the motor generator, etc., and substitute an a.c. power supply, or (b) leave the motor generator for portable operation, and make provision for connecting an external a.c. supply. The latter seems the best idea, although the writer shuns the thought of super regen. receivers in suburban locations.

However, as the conversion of this side of the unit is quite straightforward

* Technical Editor, 23 Parkside Avenue, Balwyn, Victoria.

no attempt will be made to describe it and it can well be left to the discretion and ingenuity of the Ham.

The voltages required for operation of the complete unit is 250 volts, which can be obtained from the motor generator by running the 9 volt genemotor (fed from 12 volts through a regulator originally) off 6 volts, which will give about 250 to 300 volts. In the case of the 24 volt model, running the genemotor from 12 volts will allow the same outputs to be obtained.

The writer feels that this unit is ideal for portable operation, and it would be difficult to beat for this purpose. At the home location, it would be a simple means of starting up on this very fascinating band.

A 288 Mc. TRANSCEIVER

BY A. K. HEAD,† VK3AKZ

After acquiring a BC966A I.F.F. Unit, it was decided to try and convert it to a transceiver for 288 Mc. From the many components in the set an audio section can be made up in many ways according to one's taste. Since audio circuits for transceivers are given in most handbooks, this part of the conversion will be taken as read.

Of more interest is the conversion of the r.f. sections. In the set there were two r.f. circuits. One consists of a single 7193 oscillator tuned by a split stator condenser and coil, and a range switch which adds a fixed condenser across the tuned circuit. Also in the same compartment is a 6H6 which rectifies some of the r.f. to actuate a remote meter to show the set is operating. This circuit was changed to a 288 Mc. super-regen. receiver in the following manner.

The following components were removed from the compartment as they are not needed: 6H6 socket and associated r.f. chokes, high-low range switch and fixed condenser, terminal strip.

The grid of the 7193 was connected to one stator of the tuning condenser via a 1 megohm resistor and 20 pF. condenser in parallel. The plate connection was left as found. As the frequency coverage of the original circuit was 180 to 210 Mc. approx., the coil was replaced by a hair-pin of length 1¼ inches and width ¾ inches soldered to the tuning condenser.

H.T. is applied via one of the salvaged r.f. chokes to the centre of the loop. Super-regeneration was smooth and the range of the tuning condenser covered the 288 Mc. band with plenty to spare.

The other r.f. circuit consists of two 7193s essentially in parallel. The range of the tuned circuit for variations of the ceramic condenser and tuning loop was found to be from 130 to 210 Mc. approx. As the prospect of getting the parallel tubes up to 288 Mc. did not appear bright, a push-pull grounded grid oscillator circuit was tried.

To do this, everything was removed from the inside of the compartment. The two grids were connected together and earthed through a 5,000 ohm resistor. The plate circuit consists of a loop running straight out from the plate caps and 2¼ inch long. H.T. is applied through a salvaged r.f. choke to the mid-point of the loop.

† Assistant Technical Editor, 12 Peverill Street, Balwyn, E.8, Victoria.

Feed back is provided by the existing chokes in the cathode circuits. However it is important to remove a small 10 pF. condenser which connects the two cathodes together for parallel operation.

For 6 volt operation of the filaments, the existing series connection must be changed. To keep the feed back up, it was found necessary to use r.f. chokes in the heater leads as well as the cathode lead.

AND NOW A MODULATED OSCILLATOR ON 144 Mc.

BY C. GIBSON,‡ VK3FO

This conversion of the 966A to the 144 Mc. band is quite simple and should present no difficulties to the Ham. The first operation is to remove the unit that carries the 7193 and 6H6 from the chassis. The leads from this unit go through a grommet at the back of the box—snip them off. Next step is to completely remove the 6H6 socket and all its associate wiring from the unit. Also remove the switch marked "high-low" and its associate resistor and condenser. At the back of the unit there are the chokes, resistors, and condensers associated with the 7193. Leave all these parts "as is."

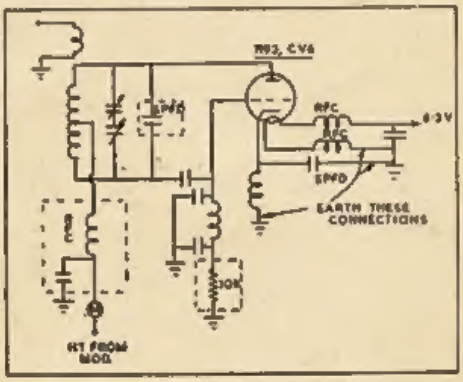

Fig. 3.—Added components shown enclosed by dotted lines. Details of modified coils in text.

Next step is to make a new tank coil. Remove the two-turn coil from the condenser and wind a 2½ turn coil on ¼ inch diameter spaced over ¾ inch. Place this new coil in place of the old coil. Now bring a lead from your h.t. power supply (280-300 v.) to one side of an r.f. choke (there are plenty in the chassis) and from the other side of the choke tap it on to the centre of the tank coil. Be careful to by-pass the choke with a mica condenser (spare from the 6H6 socket).

Now for the grid leak. This is put in from the end of the two ceramicon condensers furthest from the split stator variable (inside the unit). One side of the grid leak to the cold end, and the other to earth. The value of the grid leak is 10,000 to 15,000 ohms and should be determined by experiment.

Place across the tuning condenser a 5 pF. ceramicon condenser (obtained from the 6H6 socket). The aerial coupling coil can be two turns of ¼ inch diameter and placed about ¼ to ¾ inch from the tank coil.

‡ 424 Centre Rd., Bentleigh, S.E.14, Vic.

Earth one side of the filament wiring and the other end of the cathode r.f. choke a milliamp. meter should be placed in the plate circuit as this will indicate if the oscillator is super-regenerating. The 7193 should draw approx. 25-28 Ma. with 280 plate volts. A greater current than this will exceed the tube ratings, while if the tube draws less than 20 Ma. it is almost certainly super-regenerating. The grid leak should be experimented with to obtain satisfactory operation.

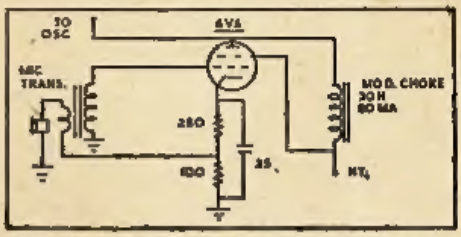

Fig. 4.—Modulator for 966A Conversion.

You should strike the band with the condenser about two thirds of the way in. If by any chance the band cannot be found, try opening or closing the tank coil, as the circumstances warrant.

Ordinary Heising modulation is quite OK with this conversion.

One last word—when modulating do not speak too loud, otherwise the oscillator will be frequency modulated. The circuit of a suitable modulator is shown in Fig. 4.

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EMERGENCY WORK AWARDS

The following letter was received by the Secretary of the N.S.W. Division from the N.S.W. Commissioner of Police, Mr. J. F. Scott:—

"Reviewing assistance rendered to the Police by civilians during the disastrous floods this year (1949), particularly in June last in the Maitland district, I would like to take this opportunity of expressing through you the appreciation of the Police Authorities to the operators of Amateur Wireless Stations who placed their radio stations at the disposal of the Police and relayed messages which could not otherwise have been passed between Maitland and East Maitland and the Police Wireless Station at Waratah, and also reduced congestion on the Maitland Police telephone line.

"The Amateurs who undertook the greater part of the relay work were Mr. V. A. Holmes (VK2AKP), Mr. H. E. Whyte (VK2AHA), and Mr. R. J. Traill (VK2XQ).

"Perhaps you would be good enough to pass on to the gentlemen concerned the attached certificates of appreciation from the Police Force of N.S.W. for the services rendered by them. They may like to include the certificates amongst their collection of cards and certificates received in connection with the operation of their respective wireless stations.

"In addition, a number of other Amateurs rendered assistance from time to time in various ways and I would like you to convey to them, through the columns of your journal, the thanks of the Police Authorities for their public spirited actions."

Further Notes on De Luxe V.T.V.M.

CORRECTIONS

1.—In several places in the article reference was made to the .25 and .3 volt ranges, this should read 2.5 volt and 3 volt ranges.

2.—Page 7, col. 2, para. 3: "If negative voltages have to be read, the a.v.c. line in a receiver for example, the ground side of the v.t.v.m. is connected to the chassis of the receiver and the active prod applied to the a.v.c. line with the function switch on **D.C. Minus.**

FILAMENT CONNECTIONS AND VOLTAGES

It will be noted in the wiring diagram last month that the rectifier is shown fed from a separate filament winding. If a 6X5GT rectifier is used it can be taken from the common 6.3 volt filament winding.

Further tests have shown that in the case of nearly all 6SN7s, the first 6SN7 (cathode follower) can be supplied from the common 6.3v. supply, thereby reducing the number of filament windings required to one. One side of this winding should be earthed, and the other side run in shielded braid, as it is most important that a.c. be kept from the wiring of the resistance "stick" and associate circuits. As an example of this, when the v.t.v.m. is switched to a.c. and on the low voltage range, placing the test prod near any a.c. or power wiring will cause a considerable deflection on the meter.

The following letter is to hand from Mr. Alec H. Clyne (VK3VX):—

"I have read with much interest the two articles entitled 'A De Luxe Vacuum Tube Voltmeter' in the January and February issues of 'Amateur Radio,' and wish to congratulate Messrs. Duncan and Thornton on their efforts.

"At the same time I feel that it is necessary to point out an error, due to a popular misconception, which appeared in the second article, in the following paragraph:—

> "'. . . remember the negative terminal on the v.t.v.m. is connected to earth through the 3-pin mains plug, so only use the active lead in reading mains voltages.'

"Wiring rules, as used in all States, require the third pin of the socket to be earthed only in 'Earthed Situations,' i.e. situations where a person using an electrical appliance can simultaneously touch any earthed metalwork, or stand on a conducting floor such as concrete. In domestic installations it includes kitchens, laundries, bathrooms, and external points. In very few domestic premises is the third contact earthed in living rooms, bedrooms, etc., although when carrying out a new installation or adding to an existing one, it is good practice to take an earthing conductor to every plug socket.

"It will be seen that the supposed earthing of the v.t.v.m. through the power point may be non-existent.

"A further point concerns the actual measurement of a.c. mains voltage. If measured between earth and the active line (of the mains), a false reading may be obtained, as the 'neutral' conductor may be in some cases as much as 50 volts above earth.

"Modern practice is to earth the neutral at the power station, at distribution transformers and other places along the route, and at the switchboard of every installation. This system, known as the Multiple Earthed Neutral (M.E.N.) System, was coming into general use at the outbreak of the recent war, but material shortages have delayed its full implementation. Hence in many areas the neutral is still not earthed at the consumer's end and may therefore have a potential above earth, at the socket, due to voltage drop in the line back to the transformer serving the particular area. This voltage drop will vary with load and distance.

"The M.E.N. System, by the way, has nothing to do with the Earth Leakage Circuit Breakers to be found on many switchboards. They are the basis of another story, and to spare the blushes of the Supply Authorities we will not go into that here.

"A word of caution—if your premises are wired on the M.E.N. System, the neutral, although earthed at the switchboard, must not be used as an earthing line, as it has no over-current protection."

It is regretted that this subject was not covered more fully, but what was meant to be conveyed was as follows:—

Assuming a receiver is under test, before testing filament and transformer voltages with the v.t.v.m., it is advisable to check the mains voltage. The most convenient point will be the board on the power transformer. If the v.t.v.m. leads are placed on the terminals indiscriminently, the chances are the earthed lead of the v.t.v.m., assuming an earthed 3-pin plug connection to the v.t.v.m., will be connected to the active a.c. lead, which will result in a blown fuse and possibly a damaged prod.

First find the active with the red probe, and then when that is done, the black probe can be safely applied to the other mains terminal.

But it is important to know which is the active terminal before applying the negative or black lead to any a.c. mains. As pointed out by Mr. Clyne, a faulty reading would be given in some cases if we took a reading between the active and earth, instead of active and neutral.

If there is any doubt that the 3-pin power outlet used does not have the third pin earthed, or it is used in places where only 2-pin outlets are available, it will be necessary to take an earth wire to the nearest earth point, if a.c. mains measurements have to be taken. It is wise anyway to have the v.t.v.m. case earthed.

In the writer's opinion, he feels that in the interests of safety, unless you are sure of what you are doing, do not use the v.t.v.m. for measurement of a.c. mains voltages, better use a separate meter and live a little longer to enjoy Ham Radio. After all, this v.t.v.m. will measure almost everything else, so this one drawback is not important.

DIAL SCALES FOR V.T.V.M.

Dial scales for the De Luxe V.T.V.M., described in the last issue of "Amateur Radio," can be obtained by applying to the W.I.A. Victorian Division, 191 Queen St., and remitting 1/- to cover cost of printing and postage.

Dial Scales for both 2.5 volt and 3 volt ranges are available.

A Simple 80 Metre Station

BY HANS J. ALBRECHT, DL3EC

Hans J. Albrecht, DL3EC, has now come to live in Australia and for the benefit of all his old DX contacts, here is the rig he used in Germany.

Some aspects of his station would be frowned on by the authorities here, namely the use of an e.c.o. directly coupled to the antenna, and also the modulation of this oscillator.

Nevertheless, by using a crystal oscillator ahead of the r.f. unit, a very simple beginner's station could be developed.

Amateur Radio is mostly said to be an expensive hobby. It is also believed that the construction of all the necessary sets takes a long time. But there is one way to make equipment cheap and quickly constructable, i.e., to use the simplest components only. In the following, the writer will describe such a construction, namely the 80 metre rig, which was built and successfully operated by him from the receipt of his DL call sign until his departure from Germany for Australia.

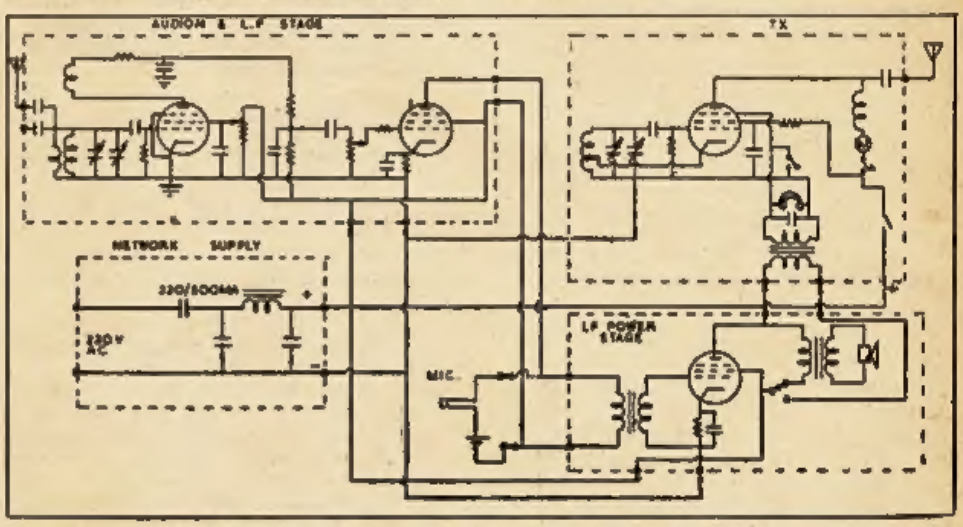
The writer's station consisted of a receiver with plug-in coils for 20, 40 and 80 metres, and a transmitter for 80 metres, except other sets for other wavelengths. The 80 metre rig worked in the following manner.

Receiver O-V-2. The aerial was inductively connected to a normal audion with reaction coupling effect (see diagram). The valve applied to this stage was a RV-12-P-2000 (German valve, for data see table). The adjustment of the reaction was effected by variation of the screen grid voltage. The following l.f. stage was coupled by resistance coupling. The valve of this stage was another RV-12-P-2000. Both these stages were mounted in a chassis of aluminium. Moreover there was a l.f. power stage for reception by loudspeaker. In this stage a RV-12-P-3000 (German valve, for data see table) was used. The coupling was effected by a l.f. transformer 1 : 4. The loudspeaker had a small diameter.

The heater supply for these three valves was directly taken from the network, which had 220 volts a.c., in the following manner. The filament of the RV-12-P-3000 was connected in series with the filaments of the both RV-12-P-2000, which was connected in parallel with a shunt, and a paper condenser of 3.5 uF. The anode voltage was taken from the power supply.

The power supply consisted of a selenium rectifier and a smoothing circuit which was formed by two electrolytic condensers of 32 and 24 uF. respectively, and a smoothing choke. No transformer was used and, therefore, the output voltage came only to about 220 volts d.c.

Transmitter: A LS-50 (German valve, for data see table) was used as an e.c.o. The variable condenser of the oscillator circuit had 100 pF. The coil was wound up on a ceramic coil former with copper wire (diameter 0.06"). A trimmer of 30 pF. was connected in parallel to this circuit. The screen grid was connected to the earth by a condenser of 1 uF. The screen grid resistor came to 10,000 ohms. The aerial was directly coupled to the anode by a condenser of 100 pF. Moreover, the anode was connected to a switch through a h.f. choke, which consisted of a normal iron-core coil former wound by about 50 windings of 0.01" copper wire, a milliampere meter and the key. This switch closed the connection with the power supply at position "transmitting" and disconnected at position "receiving" (see diagram).



Circuit Diagram of DL3EC's 80 metre station.

The input power came to 6 watts, because the anode voltage taken from the output of the power supply was only 220 volts. The whole transmitter was mounted on a wooden board. The heater supply was directly taken from the network, whilst a glow lamp of 200 watts (for 220 volts) and a small resistor were used as series resistors, because a transformer was not on hand.

Aerial: A windom aerial, 40 metres long, was lowly strung over a yard.

With this station the writer worked many Hams on c.w. The reports were permanently sufficient. The tone was in every QSO T9, and the frequency was always stable. Moreover, the writer worked on telephony with the same rig prior to leaving Germany. For that, some alterations were necessary in the rig and are described below.

Telephony operation. The writer chose suppressor-grid modulation because of the lower cost. The modulation amplifier used was the same l.f. power stage as described above. At position "transmitting," the connections to the receiver (chassis) were interrupted, and the input transformer of this stage was connected to a simple carbon mike, which was mounted on a small wooden board. This microphone was one of a normal telephone apparatus. The driving element consisted of a pocket lamp battery of 4.5 volts (see diagram).

At phone transmission, the output of the l.f. power stage was disconnected from the loudspeaker transformer and connected to a l.f. transformer 1 : 4, whose secondary winding was connected, on the one hand, to the suppressor-grid and, on the other hand, to the earth wire. A condenser of 0.01 uF. and a pair of headphones was connected in parallel to the secondary winding. Although the apparatus worked without suppressor bias, the reports on the modulation were permanently good.

The successes of this station and, first of all, the good quality of transmission prove that Amateur Radio is also possible with the simplest and cheapest sets. Although the power input was only 6 watts, the writer was able to QSO stations in all parts of Germany on c.w. and phone. By another rig, of course, DX QSOs were carried out.

TABLE OF THE PENTODE VALVES USED
(Taken from a German Valve Table)

Type	Filament Volts	Filament Amp.	Anode Volts	Anode Amp.	Screen Volts	Screen Amp.	Grid Bias Volts	Mutual Conduct. Umhos	Power Output Watts
RV-12-P-2000	12.6	0.075	210	0.002	75	0.0006	-2.3	1,500	0.9
RV-12-P-3000	12.6	0.21	250	0.02	200	0.0023	-2.5	10,000	3
LS-50	12.6	0.7	300	0.130	250	0.0035		4,000	18

Note.—The RV-12-P-3000 and LS-50 were operated with under-voltage (see text).

MAGSLIPS AND THEIR USES

BY D. L. ASPINALL*

Magslips are a type of small selsyn developed originally by the Admiralty to provide remote indication and control in naval ships. They were adopted and used in large numbers by the other services, and since their removal from the secret list they have become available to the public.

These units are generally described rather loosely by disposals organisations as "selsyn motors," but there are about one hundred different types of magslip elements. Only one or two types, however, are easily obtainable secondhand.

The name is derived from the words "magnetic slip ring," which is a basic feature in the design of Magslip receivers.

GENERAL PRINCIPLE

Each Magslip consists of a stator and motor, the stator being wound with three sets of windings at angles of 120 degrees in much the same manner as the stator of a three phase induction motor. The three windings are termed phase windings, although in point of fact the currents induced in them differ only in magnitude and not in phase.

The rotor varies in form according to the specific purpose of the Magslip. In the case of a receiver used for indicating purposes only, it is an L shaped piece of iron mounted on the shaft and energised by a fixed coil by means of a magnetic slip ring. The rotor of the Magslip transmitter is an H shaped iron core with a single winding, or its equivalent in the form of a slotted drum armature.

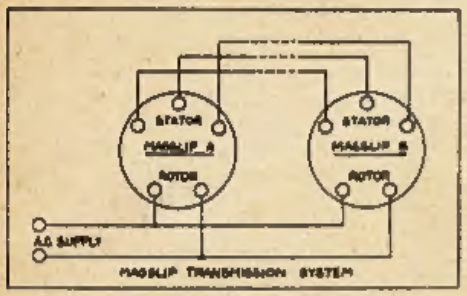


Fig. 1.

The basic scheme for Magslip transmission comprises two similar elements having their rotors energised from a common a.c. supply, and their stator windings connected in parallel "phase to phase" as shown in Figure 1 for the Magslip System. Voltages will be induced in the stator windings, their magnitudes depending upon the position of the rotors. If these are in coincident angular positions, the induced voltages will be equal and there will be no current flow between the stators. If one rotor is now displaced with respect to the other, the balance is upset, and equalising currents will flow in the stator windings, thus producing torque which tends to restore the rotors to coincident positions. Thus if one rotor is turned, the other will follow within very fine limits of angular accuracy of the order of 1% in the case of remote indicators.

USES OF MAGSLIPS

The duties which Magslips may be called upon to perform are legion and may be considered as being limited only by the ingenuity of the user. A few of the more common types are given as follows:—

Power control of a remote mechanism from a director.

Remote indication of the movement and position of a mechanism.

The summation of two or more movements with indication of the result, and control of a mechanism accordingly.

A synchronous link or electric gearing between two mechanisms.

Electrical computation.

When considerable power is required to operate or control a mechanism, a servo device, such as a hydraulic pump and motor with a valve controlled by a Magslip hunter, may be used. Another method involves the use of a coincidence transmitter and thermionic amplifier. Basic schematics for some of these devices are shown.

Two methods of using single Magslip transmitters on direct current as indicators or remote control devices will now be described. It is considered that these schemes will be of more interest to the Amateur or Experimenter than any of the above.

The first method involves the construction and use of a controlling element in the form of a potentiometer. Sketches of this as constructed by the author are shown in Fig. 2. It consists of a revolving resistance unit wound on a flat ring of durabestos, having leads for the d.c. supply tapped into two opposite points on its inner circumference. It is clamped between two discs of the same material, and six fixed contacts are arranged so that they are equally spaced around its periphery and bear on the resistance wires as the unit is rotated.

Six leads from these contacts are taken to appropriate points on the Magslip stator as shown in the connection diagram Fig. 3. This is fully explained later. The resistance may be wound with Nichrome wire of about 0.022" diameter. Sufficient should be wound on to give a resistance of about 8 ohms measured between opposite points on the circumference. (Using a Magslip of 50 volts a.c. rating.)

As continuous rotation was desired, slip rings were used to lead the current into and out of the resistance, but if not more than one revolution in either direction is required, flexible leads could be used here to simplify matters.

As previously mentioned, it is necessary to have six leads from the stator of the Magslip. These consist of the three existing leads together with three new ones obtained by disconnecting the star point on the windings. The three internal leads forming the star point must be very carefully located and disconnected. Flexible leads should be soldered and tied on, and brought out through extra holes drilled in the end casing of the Magslip.

Now as to the operation of this scheme, rotation of the resistance will obviously apply the maximum d.c. voltage to each phase winding of the stator in turn, thus producing a revolving field which follows the movement of the potentiometer. Since the rotor is ener-

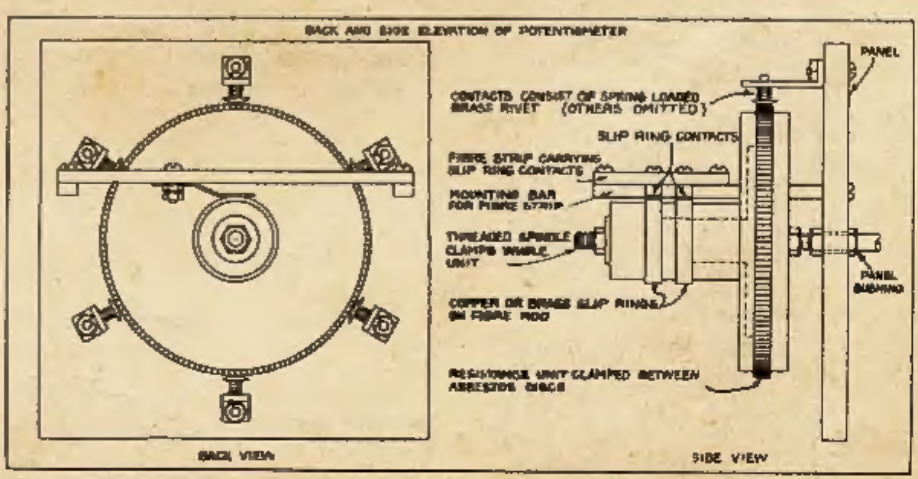


Fig. 2.

*C/o. Technical College, Hobart, Tas.

gised from the same d.c. supply, it also follows this around.

The second arrangement for use with d.c. current is known as the "M" motor or step by step system (Fig. 4), in which one complete revolution of the rotor is performed in 12 definite steps of 30 degrees each. Referring to the diagram, the idea is to connect points 1, 2 and 3

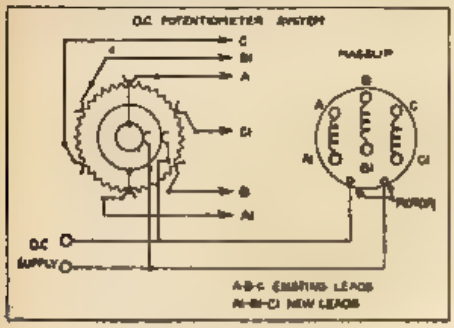


Fig. 3.

of the stator winding to a d.c. source in the sequence shown in the accompanying table. By this means the resultant field is caused to revolve in steps of one twelfth of one revolution. The switching may be conveniently done with a three pole twelve position wafer switch. As the table indicates, the first step is the connection of the supply positive to 1 and the negative to both 2 and 3. As the rotor is also energised, its position will be decided by the resultant field set up by three stator windings.

Using Magslips of 50 volts a.c. ratings, a 6 volt d.c. supply will give a fairly useful torque, but this can be nearly trebled by using twelve volts. This applies to both the above arrangements. A test taken with the potentiometer arrangement showed that practically the same torque was available using a 12 volt supply as was obtainable with the normal Magslip transmission system using 90 volts a.c. The important advantage of the d.c. systems is that heating is reduced sufficiently to allow of continuous operation.

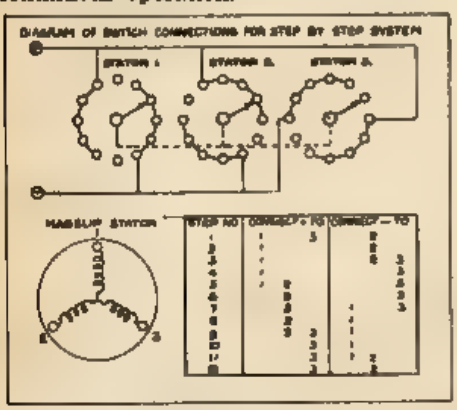
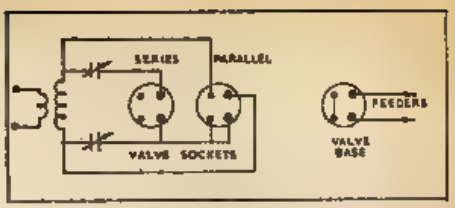


Fig. 4.

Finally, if such uses can be found for them, Magslips may be used quite successfully as alternators and synchronous motors with the rotor energised with d.c., and even as straight three phase induction motors, developing a surprising amount of power for such small units. The last is possible in the case of most transmitters as the rotors have two windings, one of which is closed upon itself. As a word of warning, be extremely careful of the windings, as close examination will reveal that they were apparently not put there by human agency, but like Topsy, "just growed." It will be found an almost impossible task to replace them if they are burnt out or damaged badly.

Series or Parallel Tuning

If you are using one of those multi-band antennae that require series tuning on some bands and parallel tuning on others, then try this scheme for a quick and easy change-over.



Connect your antenna tuning circuit to two four-pin valve sockets and your feeders to an old valve base as shown in the diagram. A series or parallel connection is then obtained by plugging into the appropriate socket.—VK2OA, R. M. Winch, 38 Boundary St., Parramatta, N.S.W.

Canterbury (N.Z.) Centennial DX Contest

The Christchurch Branch of the New Zealand Association of Radio Transmitters will hold a contest to celebrate the first Centennial of the Canterbury Province, 1850-1950.

RULES

1. The contest shall be held from 0001 hours N.Z.S.T. 25/3/50 to 2359 hours on 26/3/50.

2. All New Zealand and Rarotongan stations competing shall be financial members of the New Zealand Association of Radio Transmitters.

3. Phone and/or c.w. may be used, and all operations, whether on phone and/or c.w. shall be within the above period.

4. All contacts shall be with duly licensed Amateur Stations.

5. Only one contact may be counted with any one station during the duration of the contest. However points may be claimed if the same station is worked on more than one band, or on a different type of emission (phone or c.w.).

6. No schedules will be permitted.

7. The 3.5, 7, 14, and 28 Mc. bands only will be used.

8. All entrants must adhere to the regulations as imposed by the authority which issues the licence under which they operate.

9. Only one operator per station and one station per operator, otherwise separate logs must be submitted.

10. A serial number will be sent and received, the number to consist of six figures in the case of a c.w. station and five figures in the case of a phone station. The first three (or two in the case of phone) to constitute the signal report and the last three to be the contact number in the contest. The contact number for the first contact would be 001 and for the 138th contact, 138; this series to be preceded in all cases by the signal report given. Should any station work any more than 1,000 stations, the 1001 contact would be numbered 001, and so on.

11. New Zealand and Rarotongan stations shall work all overseas stations and shall claim one point per contact with a multiplier for each country worked as per latest A.R.R.L. countries list.

12. Overseas stations shall work as many New Zealand and Rarotongan stations as possible.

13. Certificates will be awarded as follows:—
7 Mc.—c.w.
14 Mc.—c.w., phone, and combined operation.
28 Mc.—c.w., phone, combined operation, and world-wide winner.
All band—c.w., phone, and combined operation.

A certificate will be issued in each of the above classes to winning contestants in each country and in each call area in the United States of America. However, the contest committee reserves the right to allot one set of certificates to a group of call areas should the entries received not warrant a separate set of certificates being awarded to each area.

14. A separate contest will be held on 80 metres for all New Zealand Amateurs who are not holders of high frequency permits.

15. Scoring for 14 above shall be as follows:—One point per contact with a multiplier for each ZL district worked, and a multiplier of 5 for each overseas country worked including Rarotonga. VK2-3-4-5-7 to count as one country, and VK6 as a separate country.

16. A monitoring committee will be formed, this committee to have the power to disqualify any station for operation which may be considered contrary to good amateur practice. The decision of the committee to be final.

17. Each log entered will show the call sign, band used and type of emission, No. contacts claimed, total points claimed, operator's name, and multiplier claimed. Then in columns Date, time (local or GMT), called, answered by, serial in, serial out, time off.

18. Entry may be made in more than one section as per 13 above, and a separate log will be submitted for every section of entry.

19. All logs are to be forwarded to ZL3LL, 4 Mary Street, Papanui, Christchurch, N.Z.

20. New Zealand logs to be in hand by 19/4/50, and overseas logs by 19/6/50. For this purpose Rarotonga will be considered as an overseas country.

21. Overseas stations will call "CQ ZL/ZK TEST" and ZL/ZK stations "CQ TEST."

IONOSPHERIC PREDICTIONS FOR THE AMATEUR BANDS

MARCH, 1950

Nine of the charts, prefixed by the letter "C" for Canberra, refer to forecasts for the South-Eastern Australian States. The remainder, prefixed by the letter "P" for Perth, are for Western Australia.

The Canberra charts refer to the following world zones:—

Zone	Region	Terminal
1	Western Europe	London
2	Mediterranean	Cairo
3	N.-West America	San Francisco
3a	N.-East America	New York
4	Central America	Barbados
5	South Africa	Johannesburg
6	Far East	Manila

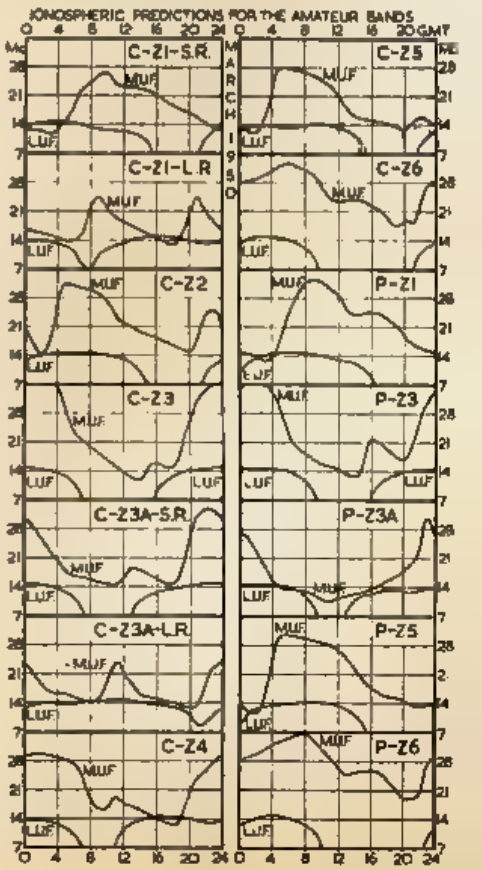
The Perth charts are similar to those based on Canberra.

QUIZ

The Prediction Service welcomes comments on the accuracy of its predictions. In particular, answers to the following questions on the Canberra-San Francisco circuit would be useful:—

1. Were good conditions experienced on 7 Mc. for the period 0700 to 1500 hours G.M.T.?
2. Was the 14 Mc. band workable from 1500 to 2000 hours G.M.T.?
3. Was the 28 Mc. band workable for several hours around midnight G.M.T.?

Answers to the Quiz should be sent to the W.I.A. and should, if possible, refer to consistent results obtained on the majority of days in the month.



Abstracts from Overseas Magazines

"ELECTRONICS," SEPTEMBER, 1949—

P. 82: "How V.O.A. Combats Jamming;" O. G. Herrick.—Description of speech clippers and limiters used by Voice of America to get through foreign jamming. The ideas used should be directly applicable to amateur operation.

P. 98: "Citizens Radio Wavemeter;" W. B. Lurie.—Detailed construction of co-axial wavemeter for citizens band 460-470 Mc.

P. 92: "Converters for V.H.F. Television Reception;" D. K. Reynolds and M. B. Adams.—Converters for the 475 890 Mc. band. Local oscillators using 955 or 6N4 tube. Mixer uses 1N31 crystal diode. Cascade circuit used for first i.f. stage for low noise.

P. 97: "Instantaneous Deviation Control;" M. R. Winkler.—Simple circuit for limiting the deviation of a f.m. or p.m. transmitter. Introduces very little distortion and allows increased effective modulation without wide side bands.

"ELECTRONIC ENGINEERING, DEC., 1949—

P. 448: "An Experimental Crystal Amplifier." How to operate on a pair of 1N34s to produce a crystal transistor. Transconductances up to 5,000 can be got from such a home-built transistor.

"RADIO AND TELEVISION NEWS," NOV. 1949—

P. 42: "A C.W. Filter;" G. L. Countryman, W1RBK.—An audio phasing filter which will peak or reject at any frequency which can be varied over the audio range.

P. 86: "The Beginning Amateur;" R. Hertaberg, W2DNJ.—Aspects of mobile operation.

"WIRELESS WORLD," DECEMBER, 1949—

P. 489: "Suppressing Impulse Noise;" D. C. Rogers.—Distinguishes impulse noise from modulation by its shorter duration. Very simple circuit but like all noise limiters which are after the detector, is less effective the narrower the receiver bandwidth.

"SHORT WAVE MAGAZINE," NOVEMBER, 1949—

P. 660: "A Transmitter for Beginners;" J. N. Walker, G6JU.—Modern 25 watter for c.w. on the DX bands. 6V6 crystal oscillator, 807 p.a. and uses branded parts.

P. 666: "Extended Double Zepp for Twenty;" A. G. Witham, G3AEN.—The construction and adjustment of an antenna with all round DX coverage and to fit in a long narrow space.

P. 670: "Improving the Q5'er;" R. W. Rogers, G6VR.—Replaces diode detector by an infinite impedance detector.

P. 672: "Voice Controlled Transmission, Part II;" R. Knowles, G2AAT.—Continuation of Part I, giving final circuits with various improved features.

P. 684: "Practice of QRP;" C. Procter, G5PR.—Notes on low power working as found out the hard way.

P. 685: "Power Pack PP-51/APQ9 on 50 Cycles A.C. Mains;" R. D. McQueen, G3DVF.

P. 687: "Converter for Seventy Cms.;" G. M. King, G3MY.—1N21B crystal diode in co-axial line. Local oscillator half 6J6 on 144 Mc., other half tripler to 432 Mc. and feeding crystal 8 Mc. i.f. channel.

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- WESTERN AUSTRALIA: CARLYLE & CO. LTD., Hay Street, Perth, and 397 Hannan Street, Kalgoorlie.
- ATKINS (W.A.) LTD., 894 Hay Street, Perth.
- SOUTH AUST.: GERARD & GOODMAN LTD., 192-196 Rundle Street, Adelaide.
- TASMANIA: W. & G. GENDERS PTY. LTD., 53 Cameron Street, Launceston, and Liverpool Street, Hobart.
- LAWRENCE & HANSON (ELECTRICAL) PTY. LTD., 120 Collins Street, Hobart.
- NOYES BROS. LTD., 36 Argyle Street, Hobart.

Australian Factory Representatives: R. H. Cunningham & Co., 62 Stanhope St., Malvern, Vic. (UY 6274)

BELLING LEE

This is one of the famous old British names in radio and one that you have seen frequently advertised in English journals and therefore requires no introduction from us.

It is our policy to bring to the amateur and professional radio field in Australia only quality products in which an investment means a financial saving and an insurance of faithful and efficient performance. For this reason we are proud to mention a few of the good things made by Belling & Lee Ltd. They are obtainable from all good Eddystone distributors throughout Australia.

AERIALS.—The SKYROD anti-interference aerial is 18 feet in length, made in five sections and is complete with fittings for lashing to a chimney or to a mast head. Erected on a chimney or mast, this aerial is well free of man-made interference and vastly improves the signal-to-noise ratio.

"ELIMINOISE" is the name given by Belling Lee to a system of extremely efficient transformers and feeder cables for the eradication of noise. A complete kit is available for use with horizontal dipoles or the SKYROD vertical aerial The kit consists of the aerial transformer L306, which is mounted right at the aerial feed point. This unit possesses a balanced RF transformer complete with Faraday screen between windings for the reduction of capacitive pick-up. The receiver "ELIMINOISE" (L307), which is mounted right at the receiver input terminals, is a similarly made RF transformer and is balanced to respond evenly over the 10-50 metre and the 200-2000 metre bands.

L1221 feeder is a 60 to 75 ohm balanced twin shielded RF cable used in conjunction with L306 and L307 above. No pick-up of noise can occur between the aerial and the receiver with this polythene insulated and screened with copper mesh type of cable.

The Belling & Lee aerial systems are available as either complete kits or may be purchased as components as desired. Noise reduction of 10 db or better is possible with the "ELIMINOISE" system and the automatic balancing of impedances adds further gain to any communication receiver.

—R. H. CUNNINGHAM AND COMPANY, MELBOURNE.

FIFTY MEGACYCLES AND ABOVE

Compiled by J. K. RIDGWAY, VK3CR.

The following letter from Jack Coulter, VK8JD, will be read with interest by all 50 Mc. men who made W.A.S. 50 Mc. due to the activities of Jack on location in Alice Springs.

OPERATION "AUNT SALLY"

In the past I have read of fellows who went "Ham Holidaying" at some outlandish spot with an equally outlandish call sign and resulting in their being very much in demand. This was my first experience of such a happy condition.

I departed Parafield on 8th January with the blessing of the local v.h.f. gang—and a certain amount of their equipment.

The beam was erected the following day and the equipment set up. Owing to power failure it was not possible to use the gear until late at night (approx. 2250 C.S.T.) when it is believed that 4BT was heard, very weakly.

At 1035 C.S.T., 10th January, 4BT was copied at good strength, but no contact resulted. Nothing further was heard that day until 1905 hours when several VK5s were heard. On calling CQ, 5RT replied and communication established. This made 5RT the first station to qualify for the V.H.F W.A.S. Then followed 5QR and 5CU who also needed this contact for W.A.S. The band was still open at 2300 when I closed. Other VK5s were contacted on the 13th and 15th.

As a reward for three hours of listening and calling on the afternoon of the 15th, I contacted 6DW whose signals were 589. He remained audible for 30 minutes, but no other VK6s were heard, unfortunately.

VK2 and VK3 joined the list of eligibles on the 16th when contacts were made with 2ABC, 2WJ, 2WH, 3YS, 3ABA and 3BD, in that order. There were isolated contacts on the 18th and 20th, leading up to Sunday the 22nd. What a day! I made a total of 86 contacts. It was the activity on this day which determined the above title.—were the boys taking shots at me! I think it was only necessary to call CQ twice in the ten hours of operation.

VK4BT was again the first station heard but again there was no contact. Shortly afterwards the VK2s were heard and several QSOs resulted. The two's then faded out and in came the three's with a vengance. The VK3s were readable until about 2000 C.S.T with the exception of a period from 1580 to 1730. Incidentally, VK5BC was contacted during the peak of the opening to VK3.

At 2000 hours the three's were fading out and the fives were building up in signal strength. Several excellent contacts were made with the South erners including one with 5KO. This station was unique in that he was not using a beam. He was using the all wave "bath tub" antenna featured some time ago in "A.R."

At the time of writing VK7 remains to be contacted. It is hoped that this will be achieved before my return to the south.

In conclusion, I would like to thank four VK3s for their part in making this trip possible. 3GF and 3LJ for their very practical help, 3QR for his excellent publicity (I am sure the whole of Australia knew of the projected trip), and 3RT for his good wishes, hi. I might add that it has all been good fun and my success has rather impressed a local gentleman, now we may yet have a permanent 50 Mc. station in the territory.

WATCH OUT FOR—

North and South American 5 Mc. stations who will be watching for VK stations during the next three months.

VK6WJ, at Wyndham, who will be operating shortly on 10 and 6 metres.

VK3ACL and VK3HR who will be operating portable from Cape Schanck on both 50 and 144 Mc. on a Sunday early in April, the actual date to be advised in our next issue. Eric and Dick are going to make determined efforts to get signals across to VK7 on both bands. 3ACL will be operating on 40 and 80 metres during the week prior to the event in order to make arrangements. Cape Schanck is on the southern most tip of the Promontory separating Port Phillip Bay from Western Port Bay and the actual height of the location chosen is 450 feet above sea level and overlooking the sea.

50 Mc. ACTIVITY

NEW SOUTH WALES

The Six Metre Contest came and went, and as is usual after a very active period, there was a corresponding low period—the v.h.f. was dead. This temporary condition has already passed and much discussion re 576 and 288 Mc. can be heard. Field days are again creating interest.

Much appreciation has been expressed for the efforts of VK5JD who, by dint of sheer hard work, provided many W.A.S. QSL to his home QTH as the sojourn in Alice Springs is temporary only. Thanks from VK3 50 Mc. boys OM.

Fred, 2ABC, has a wonderful score in the Contest and very deserving, too. Fred definitely needed a holiday after it. No names, but a visitor found Fred asleep with his head alongside the key!! John, 2WJ, has also an f.b. score.

The January meeting of the W.I.A. V.H.F. Section was easily a record. The attendance being 53. The draw—a lecture on "Noise Generators" by 2UD. Bob cleared the air regarding noise factors. The lecture was particularly well received and informative. 2ADT and 2BZ made the trip and stayed with 2AH.

A great deal of thought is being given to mobile gear, particularly by v.h.f. chaps who have poor locations. February v.h.f. was very interesting and visitors and or newly v.h.f.-minded are 2AFZ, Eric; 2FJ, Jack; and 2JF, Ivan. Dave Evans has passed the A.O.C.P. and is awaiting a call sign, congrats Dave. Boyts Electrical Co. have presented the Section with a handsome Cup to be given to the Amateur who, during 1950, achieves the most outstanding v.h.f. work. Your suggestions are solicited. Suggestions recorded at the meeting were: (1) best piece of amateur made gear; (2) best lecture by v.h.f. Amateur; (3) best 144 Mc. achievement, (4) most advanced v.h.f. technique. We understand that Ken, VK2AIL, is responsible for the above incentive. Thanks Ken.

Another suggestion was that a special certificate be presented to Amateurs who do outstanding work in any field.

VICTORIA

Conditions continued very good for sporadic E work during January and many interesting contacts were made. VK5JD operating from Alice Springs was the most sought after station on the band. He made the first appearance from 1550-1920 on the 16th of January and worked 3YS, 3ABA, and 3BD. On the 18th, 2HT was worked while on the 22nd from 0915 until 1520, Jack worked practically every VK3 active on 50 Mc., with a signal running well over S9 at times. He was also in from 1800 to 1945 on the 24th and made quite a number of contacts.

Openings were practically a daily occurrence during the month and only the outstanding ones will be reported in detail.

8th of January. VK4s contacted from 1100-1580; VK2s and VK4s from 1815 to 2300. Very short skip noticed with 2GU, of Canberra, putting an S9 plus signal into Melbourne for quite some time.

13th: 1100 to 1600—VK2s and VK4s contacted.

16: 1730-2000—VK4s worked. 1850-1920—VK5JD contacted.

22nd: Possibly the best day this season. 0815-1200—VK4s contacted, 0915-1530—5JD contacted; 1020-1800—VK2s worked; 1530-1600 and 1630-2015—VK5s worked with terrific signals, 2200-2230—VK2s contacted again.

24th: 1800-1945—6JD audible. 1825-2215—VK2s and VK4s contacted.

29th: 0930-1430—VK4s contacted; 1000-1045—VK2s worked.

At the time of writing the last opening was on the 5th of February when from 0850-1120, VK4s were contacted and it appears conditions are now possibly tapering off.

Some more extended ground wave work has been carried out between VK3 and VK7. On the 30th of January, 7XL worked 3ACL at 1040 with S8 signals, and 3XA at Mitcham (230 miles) with S2 signals. 7XL was very steady at 3XA, and the absence of fading made it possible for them to have a complete QSO on phone. 7XL was also heard by 3VL at R5 S2 to 3.

Two new country stations are active on the band. 3GV, of Colac, and 3AT, of Shepparton, the former has been heard in Melbourne and has also worked plenty of DX. Melbourne stations will be looking for contacts with both these stations.

New voices heard on the band in the city come from 3ALH, of Kew, with 13 watts to an 807 and a three element c.d. beam, putting out a good signal, and 3AVN, of Black Rock, who is using an 807 screen modulated. 3LV, who was previously active from Trafalgar South, has settled in the city and is active on six again.

144 Mc. DOINGS OF THE MONTH

NEW SOUTH WALES

An excellent suggestion by Ken, 2AMH, that instead of making random calls on 2 metres, that throughout the 24 hours calling and listening be done on the hour. Listening only is useless and it is hoped that Interstate 2 metre men will co-operate. So if you have the day off or are in the shack, give a call and listen on the hour.

A discussion about the mod.-osc. and sharp receiver arrived at no real solution which seems to be inextricably tied up with "noise factors" and power of transmitters plus DX.

VICTORIA

There is little of a spectacular nature to report this month, with possibly the 50 Mc. activity reducing the numbers on the band. Conditions for work with Ballarat were noticeably better than usual on a few occasions and a number of Melbourne stations worked this area for the first time.

New stations on are 3FU, 3FJ, and 3HT, all using simple gear and putting out quite good signals. 3ACH now has an m.o.p.a. consisting of a pair of CV6s driving an 832. This provides quite an improvement over the straight modulated oscillator.

A field day was held on the 5th of February, those out being 3YS at Mt. Macedon, 3FO Mt. Dandenong, 3JO One Tree Hill, and 3TO 400 ft. a.s.l. on a hill outside Yallourn, 75 miles from Melbourne. Many contacts were made by all those on the band although no records were broken, best DX being 3YS to 3TO, 110 miles. 3TO also worked a number of Melbourne stations; QSB was very noticeable with signals peaking S8 and fading right out.

288 Mc.—Newcomer to the band is 3BD who is using an m.o.p.a. consisting of a pair of RL18s driving an 832 to 25 watts. Receiver is a 955 super-regen. At the time of writing, Eric has worked 3AJH and 3ED, the latter at a distance of 12 miles, the best DX for this band so far, although no doubt greater distances will be covered before long. Other new paths are 3MD to 3IM, and 3IM to 3NW. Eight element broadside arrays are popular and those using this type of beam are 3LS, 3MD, 3ED, and 3BD. Main disadvantage seems to be rather sharp horizontal directivity.

576 Mc.—There is little to write about concerning this band this month. Absence of further portable work has prevented the establishment of any new records and the only new path to be covered is that between 3XA and 3IM, about 12 miles.

2,300 Mc.—3XA, 3NW, and 3AKE are now all set up for two-way work on this band and tests are to be carried out from Sassafras in the Dandenong Ranges where Ken, 3NW, will be on holidays, to the other two stations. 3NW and 3XA have worked over a distance of about one mile (Ken taking his rig out in the car) with very strong signals, so we hope to have some real DX contacts to report next month.

— . . . —

A SUBSTITUTE FOR THE CAPACITY TYPE LIGHTNING ARRESTOR

The capacity type lightning arrestor consisting, as it does, of two metal plates mounted in close proximity on an insulating block is generally not suitable for use on transmitting antennae. A far more efficient method of keeping the antenna at earth potential, that is as far as static charges are concerned, is to place an inductance between ground and antenna.

The inductance is constructed so that it offers a very high impedance to frequencies which are to be used. In practice, it will be found that a coil close wound to a length of three inches with No. 32 gauge s.w.g. enamelled wire on a former one inch in diameter will be suitable for frequencies between 0.5 and 30 Mc.

For frequencies above 30 Mc., a coil with such a large number of turns would not be necessary and it is therefore suggested that 100 turns be used in this instance.

In the case of a doublet antenna, it will, of course, be necessary to use two inductances connected, one between each feeder wire and earth.—VK3KF.

FEDERAL, QSL, and DIVISIONAL NOTES

Federal President: W. R. Groome, VK3WG; Federal Secretary: W. T. S. Mitchell, VK3UM, Box 2611W, G.P.O., Melbourne.

NEW SOUTH WALES

Secretary.—Maurie Butler (VK2AAN), Box 1734 G.P.O., Sydney.

Meeting Night.—Fourth Friday of each month at Science House, Corner Gloucester and Essex Sts., Sydney.

Divisional Sub-Editor.—L. D. Cuffe, VK2AM, 14b Watson Street, Neutral Bay, N.S.W.

Zone Correspondents.—**Nth. Coast & Tablelands:** J Retallick, Clarence River Council, Sub-station, Raleigh, **Newcastle:** H. Whyte, VK2AHA Vale St., Birmingham Gard., Newcastle; **Coalfields:** and Lakes H. Hawkins, VK3YL, 27 Comfort Ave., Cessnock, **Western:** G. J. Russell, VK2QA, 110 Bogan St., Nyngan; **South Coast and Southern:** R. H. Rayner, VK2DO, 42 Pettit St., Yass; **Western Suburbs:** A. C. Pearce, VK2AHB, 48 Harrabrook Ave., Five Docks, **Eastern Suburbs:** H. Kerr, VK2AX, No. 4 Flat, 144 Hewlett St., Bronte; **North Sydney:** L. D. Cuffe, VK2AM, 779 Military Rd., Mosman; **St. George.** J. A. Ackerman, VK2ALG, 33 Park Rd., Carlton; **South Sydney:** V. H. Wilson, VK2VW, Cr. Wilson St. and Marine Pde., Maroubra.

VICTORIA

Secretary.—C. G. Quin, VK3WQ.

Administrative Secretary.—Mrs. O. Crom, Law Court Chambers, 191 Queen St., Melbourne, C.1.

Meeting Night.—First Wednesday of each month at the Radio School, Melbourne Technical College.

Zone Correspondents.—**North Western:** R. E. Trebilcock, VK3TL, 123 Victoria St., Kerang; **Western:** C. C. Waring, VK3YW, 13 Skene St., Stawell; **South Western:** W. H. Rose, VK3UT, Ballangeich, via Warrnambool; **North Eastern:** J A Miller, VK3ABG, "Erinvale," Avenel; **Far North-Western Zone:** Harry Dobbyn, VK3MF, 42 Walnut Ave., Mildura; **Eastern Zone:** Mrs. P. M. Churchward, VK3US, "Shirley," Red Hill.

WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI.—Sundays, 1100 hours EST, 7196 Kc. and 2000 hours EST, 50.4 Mc. No frequency checks available from VK2WI. Intra-State working frequency, 7175 Kc.

VK3WI.—Sundays, 1130 hours EST, simultaneously on 3580 and 7196 Kc. and re-broadcast on 50 and 144 Mc. bands. Intra-State working frequency 7185 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI.—Sundays, 0900 hours E.S.T. simultaneously on 3750 Kc., 7196 Kc., 14342 Kc., 52.4 Mc. and 144.128 Mc. Frequency checks are given two nights weekly, and the times are announced during Sunday broadcasts. 7065 Kc. channel is used from 1000 to 1030 hours each Sunday as VK4 query service to VK4WI.

VK5WI.—Sundays, 1000 hours SAST, on 7196 Kc. Frequency checks are given by VK5DW on Friday evenings on the 7 and 14 Mc. bands.

VK6WI.—Saturdays 1400 hours, Sundays 0930 hours WAST, on 7196 Kc. No frequency checks available.

VK7WI.—Second and Fourth Sundays at 1000 hours E.S.T. on 7196 Kc. No frequency checks are available.

QUEENSLAND

Secretary.—W. L. Stevens, VK4TB, Box 635J, G.P.O., Brisbane.

Meeting Night.—Last Friday in each month at the Y.M.C.A. Rooms, Edward Street, Brisbane.

Division Sub-Editor.—F. H. Shannon, VK4SN, Mindeu, via Rosewood.

SOUTH AUSTRALIA

Secretary.—K. A. Barbier, VK5MD, Box 1234K, G.P.O., Adelaide.

Meeting Night.—Second Tuesday of each month at 17 Waymouth St., Adelaide.

Divisional Sub-Editor.—W. W. Parsons, VK5PS, 483 Esplanade, Henley Beach.

WESTERN AUSTRALIA

Secretary.—W. E. Cozon, VK6AG, 7 Howard St., Perth.

Meeting Place.—Padbury House, Cnr. St. George's Ter. and King St., Perth.

Meeting Night.—Watch the Monthly Bulletin.

Divisional Sub-Editor.—George W. Ashley, VK6GA, 33 Mars Street, Carlisle, Western Australia.

TASMANIA

Secretary.—R. D. O'May, VK7OM, Box 871B, G.P.O., Hobart.

Meeting Night.—First Wednesday of each month at the Photographic Society's Rooms, 168 Liverpool St., Hobart.

Divisional Sub-Editor.—Capt. E. J. Cruise, VK7EJ, Anglesea Barracks, Hobart.

Northern Correspondent: C. P. Wright, VK7LE, 8 Knight St., Launceston.

FEDERAL

I.A.R.U. CALENDAR NO. 38

25th Annual International Conference

This event is to be held in Paris during 18th-21st May, 1950, and a total of 12 member societies favour this proposal with one unofficial approval, while five societies propose sending delegates. Although the W.I.A. does not anticipate sending a delegate at this conference, representation may be arranged with the R.S.G.B.

Regional Conferences on Frequencies

Proposals were put forward by the United States Territories Delegation in Region 3 (which includes Australia) for 1800-2000 Kc. and 3500-3900 Kc. to be allocated to the Amateur Service; but the Conference not reaching unanimous agreement, it was left to various administrations to allocate space within these bands to Amateurs. The final decisions have not yet been reached.

International Amateur Communications

As mentioned several months ago in these notes, certain administrations prohibited their Amateurs from communicating with other Amateurs. The I.A.R.U., fearing something was amiss, contacted these with the object of ascertaining the reasons behind the ban. It now appears that these administrations misinterpreted the clause relating to third party traffic on the part of Amateurs, and it has now been referred officially back to the people concerned for clarification. All in all it looks as if Amateurs will retain their rights of international communication with other Amateurs.

New Member Proposed

It was proposed that the Union Congolaise des Amateurs de Radio be admitted to I.A.R.U. membership, and your Federal Executive is pleased to record its vote in the affirmative.

Voting on Previous Proposals

No. 65 on the question of giving consideration to a universal system of serial number exchanges in Contests was carried by 18 for with 1 against. It is therefore agreed that all member societies will give consideration to this proposal in the interests of simplicity and avoidance of confusion.

No. 66 on the question of obligating member societies to publish in their own journals results in Contests of their own Nationals was carried by 17 votes for and 2 against. The A.R.R.L. and the R.C.A. stated they could not be bound by this proposal, but all other societies will comply with this proposal.

No. 67 on the question of reinstatement of the Spanish Society, the U.R.E., was agreed to, 17 for with 2 against.

No. 68 on the question of consideration to the adoption of a universal phonetic alphabet when using telephony, with the recommendation of the Interservices' alphabet was adopted, 16 for with 2 against.

(Proposals 65, 66 and 68 were proposed by the W.I.A.)

With reference to proposal No. 68, which has been carried, it now behoves every VK phone to adopt the Interservices' alphabet when using phonetic spelling. Make a note of this for the operating table.

C.W.-PHONE BAND ALLOCATIONS

The 18th Annual Federal Convention adopted, and reaffirmed at the 19th Convention, the sub-division of Amateur Bands (by "gentlemen's agreement") between phone and c.w. as follows —

3500— 3550	c.w. only.
3550— 3800	c.w. and phone.
7000— 7020	c.w. only.
7020— 7300	c.w. and phone.
14000—14100	c.w. only.
14100—14400	c.w. and phone.
*21000—21100	c.w. only.
*21100—21450	c.w. and phone.
28000—28100	c.w. only
28100—30000	c.w. and phone

* When allotted.

It is anticipated that the 7 Mc. c.w. allocation may be extended due to the emergency network operating on 7002 Kc. This table above is voluntary, but all are urged to abide by it so that all operators may enjoy their hobby.

W.I.A. ACTIVITIES CALENDAR

Feb. 10: Agenda for 20th Convention issued by F.E.

March 10-14: A.R.R.L. (C.W.) DX Contest.

March 17: Annual Per-Capita from Divisions due with F.E. not later than this date.

March 17-20: A.R.R.L. (Phone) DX Cont.

March 25-26: Canterbury (N.Z.) Centennial Contest.

Mar. 31: End fiscal year for Fed. Executive.

April 7, 8, 10: 20th Annual Federal Convention in Melbourne.

May 7: Minutes of 20th Convention issued.

DX C.C. LISTING

PHONE

VK3JD	(1)	86	138
VK6RU	(2)	87	132
VK3BZ	(5)	86	129
VK6KW	(6)	87	129
VK3EE	(10)		111
VK4JP	(5)		114
VK6DD	(6)		113
VK3LN	(11)		112
VK3IG	(5)		100
VK3JE	(7)		100
VK4KS	(9)		100

An application has been received from VK4HR and is being checked.

C.W.

VK3BZ	(5)	40	156
VK3CN	(1)	40	151
VK4EL	(9)	40	140
VK3VW	(4)	40	135
VK2QL	(5)	40	133
VK3EB	(10)	39	129
VK4HR	(8)	40	126
VK3EK	(3)	39	123
VK3FH	(16)	38	120
VK4RF	(11)	35	119
VK2EO	(2)	40	116
VK4DA	(7)	38	113

New Member

VK7RK	(12)		100

OPEN

VK3BZ	(4)	40	189
VK3KX	(1)	40	167
VK6RU	(2)	39	165
VK2DI	(2)	40	160
VK3HG	(5)	40	155
VK3JE	(12)	39	154
VK4HR	(7)	40	151
VK6KW	(13)	39	149
VK4EL	(10)	40	140
VK3MO	(5)	39	139
VK3OP	(19)	39	137
VK2ADE	(26)	40	132

New Member

VK7RK	(31)		108

NATIONAL FIELD DAY CONTEST

For some unknown reason, this Contest does not enjoy the popularity it deserves. Before the recent war, it was much more popular and many entrants journeyed forth each year to have fun and also test out their portable gear. With the greater amount of portable disposals gear about at present, it is difficult to understand what this Contest lacks, as this year, for additional attraction, prizes to the value of three guineas were offered for each

section. Even so, as far as known at the time of writing, only VKs 3JD, 3EE, 3UM and 4GB were "on deck."

This is most disappointing to the Contest Manager, and suggestions would be more than welcome for popularising this annual event. Please let your Divisional Council have suggestions.

FRENCH ANTARCTIC EXPEDITION

General details of this expedition were notified in last month's notes, and since then the station, FB8AX, has been in operation and VK7LZ made contact with him on the 6th February on 14006 Kc. His note is chirpy, but he is putting a strong signal into VK7. As he is situated in Adelie Land, French Antarctica, he will be counted as a new country

REMEMBRANCE DAY TROPHY

This trophy is at present doing a round of the Divisions in order that all might view this unique emblem symbolising our regard for the memory of those who gave their lives. If you would like a photo of this trophy, place your order with your Division—prints will be approximately 1/6.

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FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

Further to para in these notes in February "A.R." anent VS1OW, ex-VK8SC, it now transpires that Syd is not returning to VK, but expects to return to his home address of 11a Burley Wood View, Leeds, 4, England, very shortly. He will then resume activities under a G call sign.

Many cards are held at this Bureau for VK8WL. This station is apparently too lazy to reply to communications and despatches of cards sent to him, so cards will continue to be held here until some acknowledgment is received from him.

This Bureau urgently requires the current address of Mr. Allan Campbell-Drury, VK2ACD. Can anyone oblige? Attempts to obtain it through routine channels have been abortive. John Gore, VK2PG, please note.

The QTH of the Headquarters of the S.A.R.L. has been changed to P.O. Box 3911, Cape Town, South Africa. The address of the QSL Bureau remains unchanged as Box 9037 Cape Town, South Africa.

A card relating to a contact on 7 Mc. made on 13th March, 1936, has just been received from W6NEX, Ed Cooley, Box 163, Los Gatos, Cal., U.S.A. The card, which requests the recipient to QSL is addressed to that ubiquitous and evergreen Ray Ohrbom, VE3OC, a power in the Ham Kingdom in those far off days. I intend making a personal delivery of the card, if only for an excuse to bend the elbow and yarn about the "good old days."

Hams, you have an honest Federal QSL Manager (sufficient halos already on hand). If it were not so I wouldn't be telling you, and wouldn't be still waiting on 11 cards for DX C.C. and a Vermont card for W.A.S. It is amazing, however, the number of rare DX stations who, when forwarding cards to the Federal Bureau for onforwarding to VKs, enclose one or more blank cards. The continued receipt of these blank cheques is beginning to wear the writer's resistance down a little and it is becoming increasingly difficult to make his satanic majesty heed the instruction to "keep thee behind me."

Sibirsky, LZ1??, of 50 Gladston, Sofia, Bulgaria, writes, "To all VK Amateurs, Merry Xmas and very, very Happy New Year, a best DX year. I shall be very happy if can to receive more of this VK QSLs which me need very for my first transmitting license." Stations receiving Sibirsky's listeners report should QSL and enable him to get the transmitting licence as Bulgarian stations are a little on the scarce side.

Reference has been made in past issues to the death of our colleague PK6XA. The manner of his death was as follows. Bert, when in Macassar, was PK6AX. (In 1932 writer contacted him as PK6AQ at Boela Ceram in the Moluccs group.) After spending his leave in VK he was transferred to Morotai where he was active as PK6XA. At this period he kept fairly regular schedules with VK3JU, who was shocked to receive a letter from Mrs. Krygsman in September, 1948, stating that Bert had passed away at Sarong, New Guinea, from a heart clot and that she was with him at the time. Mrs. Krygsman has since returned to Australia and as Sarong is not in Indonesia, her statement disproves the accuracy of the superscription, placed on cards returned by the N.V.I.R. recently, and mentioned in these notes.

Holidays have come and gone, but memories of a pleasant time spent in the Otways will linger in the writer's mind for many years. Apologies are expressed to Ron VK3KX for the inability to drop in and see him when traversing Colac, but time was at a premium. The latter portion spent in pursuit of the yellow metal proved that it was as elusive as ever, but as expenses were made and the pursuit enjoyed, encouragement for further attempts is maintained. It is not certain whether an attack of lumbago on return is a legacy from the pastime or due to struggling with antenna poles singlehanded.

Noel Roberts, ex-VK9NR, is currently on the air under the call sign of ZL3OZ.

Through VE4GJ, ZS6DO advises that he and ZS6GV are going to Swaziland for a few weeks from the second or third week in March. They expect to use the call signs ZS7A and ZS7B respectively, but this is not yet certain. They propose to use 14 Mc. c.w. and no QSLs will be answered unless sent direct to ZS6DO's home QTH of 16 Fourth Avenue, Lambton, Germiston. They do not wish QSLs to be sent via S.A.R.L. This will be a unique chance to work ZS7.

Andre Baillet, a friend of Felix, FK8AC, has arrived in Noumea enroute to Wallis Island where Andre will take over the W T and met station for a period of three years. While at Wallis Island Andre will operate an Amateur Station under the probable call sign of FW8AA. No doubt Andre will be eagerly sought by all DX hounds. QSLs will be certain, but will take some time as there are only five mails per annum between Wallis Island and New Caledonia. Andre will not leave for Wallis Island until approximately the beginning of May, and further information on the bands and frequencies he will be using will appear in these notes. Andre has been given full advice on the use of QHM, QLM, etc., and not to answer calls on his own frequency in an attempt to squash the lids who pile up on the frequency of rare DX stations and make their Ham activities a misery.

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NEW SOUTH WALES

EASTERN SUBURBS ZONE

There has been a noticeable falling off in activities over the past month. This may have been due to a few chaps doing the annual overhaul, but some of the silence has been undoubtedly caused be the wholesale destruction we suffered during the heavy nor-easter which hit us in the middle of January. Most mast and beam owners had trouble in varying degrees—2NO found his two delayed Triplex beams a complete junk heap of wires, spreaders and poly spacers. He replaced the array with a new G8PO twin folded dipole outfit which seems to be giving satisfaction.

Best news of the month in this area is that some of the boys are going v.h.f.—2AFZ, 2AX, 2FJ and 2DV have been heard at times muttering about 50 and 144 Mc. We have a good gang in this zone already on the v.h.f. bands, but there is room for more. 2NO is anxious to get moving above 300—any takers? 2AFZ is busy completing a rig for 144 Mc., a stabilised three stage to an 832, plus a converter for use ahead of his present receiver. 2DV has come to light again with a first-class signal—seems that three harmonics don't keep all Hams off the air indefinitely. Snowy is going for 50 Mc. QRP

2AZH, 2EH and 2AJG all heard sporadically with good phone but neither often or long enough.

2AIG is always reported as "building another final" and that goes for this month's report—only this time it is true. 2AX threatens to take a retrograde step in deserting plate modulation for suppressor grid—his quality is consistently good irrespective of which type he uses. Andy is another recruit for the 50 and 144 Mc bands.

2FJ went into smoke for a couple of weeks last month—still looking for that "bit of dirt" on which to place his super tower. With a beaming face he reported that he had found "just the place," not too far from Sydney but far, far away from the small time, parish pump, parochial and partisan restrictions which have hampered him in his constructive ideas in the past. Best of luck, Jack, you are a trier, mate.

2NO doesn't seem to get far enough away from his journalistic activities to get on the air much. However a considerable amount of building has been proceeding in lieu. For 50 Mc. a new transmitter is nearing completion: four position crystal oscillator, followed by a Philips QV04/7 doubler, 807 buffer and p.p. 834s. Modulator is Class AB1 807s. In the same rack is a new 144 Mc. job and the power supply is common to either rig. Unusual point about the power supply is that it does not use a single glass rectifier and yet manages to hand out the following ergs: 1,000v at 200 Ma., 550v. at 200 Ma., 200v. negative bias, and 24v. at 6 amps. This is accomplished by the use of British ex-Naval selenium bridge rectifiers.

Besides building operations, Don had to entertain the following visitors last month: VK4KH, VK2WF, ex-G6TN (1924 vintage), 2ALB, 2AKA, ex-2SI, and ZL1OF. The G is now one of the Empire's foremost scientists, but the bug got him at Don's shack and he pounded the key for seven hours with sundry Gs before the contemplated visit of "one" hour was completed. There is a distinct possibility that another VK2 may bob up anytime—get him into the Institute, Don—we can use his services there too.

NORTH SHORE ZONE

Periods of solid heat, blinding rain, humidity, just about every insect that crawls, flies, and jumps, and DX conditions that are about the worst one can remember in years, have made sitting in the shack more an ordeal than a pleasure of late. Still, as both the writer and 2PV have had the plessure of working AC4 for the first time after more years of trying than we like to talk about, it's been a pretty good year so far!

Have heard from Bob Meadows, 2ARM, that he is tossing in Ham Radio for good, his executive duties on one of the prominent trade papers taking up too much time to allow him to give the attention he'd like to the shack. Hope we'll see him back one of these days, though.

2AMB has discovered that he can at last work a bit of DX over the short route, which means right through his house and the hill at the back of it. He may be in a new location before long.

2ZH is under way once again, and getting in a little time at his chief love, construction. 2NI needs a dare-devil steeplejack, to shinny up his pole and put the centre element of his 10 metre beam back where it belongs. 2OO is still clearing up the shack—it's now possible to open the door without two men to lend him a hand." He'll be departing for a new call area before long. 2AND is getting among the DX with his new rig, but because of his location is only hearing sigs at half the strength anyone else can hear it. Hear that 2FH may be joining the gang on this side before long.

Haven't heard from 2GQ in quite a while, but reports say that he is planning a new antenna array, and polishing up something called a "bug." Noticed that 2ES had his three element beam down, and the old dipole back up there, but guess this is only temporary. 2AGN heard back on again, in between voyages. 2VM, 2RA and the other stalwarts were heard battling away in the B.E.R.U., but I didn't hear a squeak out of Dave, 2EO. Anyway, conditions being what they were, I think it was about the most disappointing B.E.R.U. Contest I can remember. Maybe things will be better next year. Was tickled to hear a KH6 in the middle of the B.E.R.U. calling "CQ AC4," long and fruitlessly. Guess he thought chances were better while the brawl was on!

WESTERN SUBURBS ZONE

2AER has been on c.w. lately although rather infrequently. Is well up in the timber business! 2FZ heard making quite a bit with the DX on 10 metre c.w. 2JT has some super coloured phone going out. Has already burnt out one EF50 in 2AHB's receiver. It doesn't sound at all bad Chas! 2WD was overheard in conversation with a very smooth gentleman, by name of HC2OT. Nice going Arch. 2OQ hasn't had much time to spare lately, but has his two element beam working. Has skeds in the early a.m. with a couple of Ws, works them the long way round. 2CL has been snatching a few good ones on 10 metre c.w. Half your luck Les. 2AGT has his two element beam up using a four-wire folded dipole with reflector or director. It's a honey as AC4NC, GT2AA and TA3FAS will testify. Phone is getting out equally well.

2QL is with the R.A.A.F. at Townsville and will soon be operating as VK4QL. Off for the last six months of 1949 on a radar course, Frank managed to work 54 countries as 2QL/3 at Ballarat. Snagged ZB2I, MD7GR and GC3FMV in Sydney over Christmas. Grand total now 156 countries, all on c.w. According to Frank, W.A.C. is possible any day at Townsville and the total will probably grow as the 60 watt band-switching rig is on its way there. 2TD has replaced his beloved "Windom" with a doublet. How's conjugal bliss and ham radio working out Ray? 2NK hasn't yet put his DR106 rig on 6 to the best of knowledge. How about some action, lad.

The Experimental Radio Society has been forced to vacate its premises at the Greenwood Hall, Liverpool Road, Enfield. New quarters are in the offing, but no details just at present.

NORTH COAST ZONE

With conditions improving on 40, the North Coast gang are staging many comebacks. 2HC was heard on 40 working 2NO, also 2NJ, 2TB, 2ADE, 2WT, have left 6 and 10. The 80 gang are also more active and the VK4s have been working plenty of ZLs and VK6s. 2SL, 2LH, 2ADE and 2JO have returned from holidays and are active on 40 and 20. 2PA has bought himself a wire recorder and cutting head. 2BH still catching bream and making the boys envious by his good catches. 2ACC and 2MM had their holidays at Urunga, both using portable gear. 2WX, 2AKR, 2RU and 5QI passed through during Xmas and New Year. 2EA experimenting with 144 with good results on the handi-talkie gear. 2GI down on 20 and 2ASF using Command Tx and Rx and working plenty of DX on 40. 2UC reports the Lismore gang hope to be at Urunga in full force to meet the boys at Easter. Allan Simpson, of Kyogle, has received his call sign, 2AS0, is active on 40, congrats Allan.

One of the highlights of the Urunga Convention will be an illustrated lecture by the one and only

2JR. Joe has something that will make the revolving "hospital beds" as out of date as smoke signals. Bring along all your questions as Joe has all the answers. Ted Hamey of Coffs Harbour, will have his talkie pictures with views of interest for your entertainment. Come along and see the "Boy" wonder, aged 5 years, who will astound you by answers of radio questions. 4FN (4WT) and 4CU will be down with their portable gear and are looking forward to meeting the VK2s; it is expected that quite a few of the VK4s will make the trip.

If you require accommodation at the hotel, please contact VK2XO at your earliest. 2AEM and 2PW will be travelling mobile and hope to make contact with Urunga on the way up from Sydney by car. To all members of the North Coast Zone if you have news please send it to 2XO, of Raleigh.

HUNTER BRANCH

Members of the Hunter Branch wish to congratulate Bill, 2CW, on the excellent job done as Secretary, and they are sorry you can't continue Bill—all the best to the new Secretary, sure he will receive the support of the whole gang. The prediction boys seem to be right on the beam by the way 10 metres is lately, Europeans being worked through for short periods during the evenings. 2PQ still working them, 2FP lost a little interest on ten, but 2AFS still going strong even on a dead band, always gets someone. Guess due to these conditions, President 2CS will be on 20 soon, with the terrific signal, not heard on 10 for a month. 2AGY back on 20 c.w. after a spell, getting onto the DX with the vertical.

Nice modulation from 2LV, the XYL doing a good job too. 2NX and 2UY had a good holiday at the Lakes. Shorty heard on 40 phone, 2GN still inactive. 2AAI has a new modulator using 807s, a nice signal on 40. 2ANA has nice open 300 ohm up now in place of the ribbon, results excellent on 40—works well with hose treatment! 2WI has nice signal on 20 with phase modulation and 813. 2XT not on with that nice new rig yet. 2PT and 2AMM getting few new ones on 20 phone with fixed beams, 2AMM doing plenty of flying too. 2MO, from Warner's Bay, has made a comeback on 40, and has anyone heard 2NL?

2KH busy with his new parliamentary duties. 2XY taking of beams at 1 QRO on 20 the 40 phone sounds good too. If you want information on outboard motors ask 2KG the Rx is taking second place for the moment. 2ANL very QRL at the moment and 20s working 6 metre DX on the beam, although it is not very high, has flea at a lower. 2ADS working Sydney well on 6, plus VK3 and VK7. 2LP on 6 too, very pleased about the VK6s. Most of the local gang passed over VK5JD thinking he was just another VK5—much to our sorrow. 2BZ spending lots of time on 2 metres working lots of new Sydney stations. 2TE picked up some new countries on 20 and 10 phone, still investigating new noise limiters.

4BG, Ron Glassop, ex-Newcastle, would like to contact Geo 2SO sometime, 2CI might pass this on. Gordon only heard on 40 phone at week-ends. 2CN had some modulator trouble but it is all ironed out now. Flash! 2AGD back on 40 with p.p. 809s, gets out around the gardens and works a lot of old friends. 2ZC only been on 20 c.w. since the holidays and reports the rig still works. Was visited by Harry 2OQ on holidays from Sydney, the gang wanted to see more of Harry but the XYL had a say! 2FX still QRX in the control room of a b.c. station, has the game sewn up too. Maitland gang not too active. 2AKP strong on 40, 2DG sneaking a few new countries on 20 c.w. 2XQ getting out nicely on n.b.f.m. on 20. John has the Hunter Valley network well under control. 2AKP, 2XQ, 2AHA very pleased to receive certificates from the Police Department for their flood work. Ass. member Chas Hunt and pal must have the code nearly mastered by this.

2TY putting in terrific signal on 10, sounds like a Californian kw. 2ADX must be QRIs. Understand we have a new Ham at Stockton in Ron Stuart, sure 2HZ will make a good job of that rig for you. Get 2PT or 2AMM to bring you along and meet the boys at the next meeting. 2AHA's 10 and 20 metre beams are up but not tuned, hopes to get CR6U'P before he leaves for Portugal. Still not receiving notes for this column from the boys, thank goodness for a Rx—looking forward to some Maitland news next issue. All the happenings to 2AHA.

COALFIELDS AND LAKES

The most important event during the month has been the official formation of the Hunter Valley Emergency Net. It was decided to carry out tests and practices on the last Sunday of each month. Due to several days of continuous rain with no sign of breaking, a get-together and practice was held on Sunday, 5th February. 2XO, 2TY, 2AFS, 2KZ, 2YO and 2YL participated and it proved very successful. At Muswellbrook, 2ANU is on very low power and is doing a good job on 6. 2YU is also spending most of his time there although Geoff has rigs on all bands. 2TY, of Lochinvar, is likely to be found on any band; 2, 6, and 10 mainly, had a 2½ hour contact with a KH6 on 10 recently. 2YO is back on the air fairly consistently. George is one of the pre-war boys that the bug has bitten again. 2KF is still one that mixes the v.h.f.s. and DX; is often working 6 and 2 cross-band, but if there is anything worthwhile on 10 you will find Bob after it. Nil from old-timer 2JZ, if you have any dope let's have it. Another OT, 2PZ, threatens a comeback any day now. Chris has been putting the finishing touches on a re-vamped AT5.

The district has lost 2MK who has taken up residence at Moscot. Nothing heard of 2ALR for ages, what's doing Bruce? Local history was made recently when Max 2KZ finally worked "Delaware" on 10 phone for his 10 phone W.A.S., the confirmation is to hand too! To make it more creditable it was all done with 16 watts input to an 807, a two-tube "blooper" Rx, plus a Franklin antenna, a very fine effort Max. He is now talking of re-building—why? Max, at odd times, works the gang on 6, still using the "blooper" Rx. "Ole" Jack 2ADT been on holidays but back on the job for a spell. If anyone wants to QSO 2ADT you want a Rx and Tx that covers 2 to 80—he is liable to be anywhere. For the benefit of 2VW, 2HO, 2AH and 2MQ, Jack still modulates 100 per cent. according to a pee-lamp.

Very little from the Lakes area, would appreciate one of the boys sending me some notes on the 2nd or 3rd of each month. Those active, I can hear, are 2LX 50 Mc., 2HR 40 and 6, when are you going to transmit on 6 Cess? 2AEZ seems to have a better signal on 6, where is the DX Em? 2AMU mainly on 6, likewise Major 2RU who also does a lot of work on 144. 2YL been on holidays met 2WP on the travels, Bill was holidaying about a mile away. With the aid of 2ADT a new four element beam was stood up and results seem to be much improved on 6. Conditions here generally have been poor, the lower frequency bands are very quiet. 2KQ at Toronto, Lake Macquarie also has a new beam on 6, 42 ft. high and is getting out fine. Jack may be off the air for a few weeks. Cheers gang.

SOUTH COAST AND SOUTHERN

Jim 2TC has quit temporarily due to heavy noise created by leaking insulators on the 66,000 volt line running through his property. Suggest you write to 2AJP, c/o. Southern Electricity and give him details to hand into officer in charge. 2APP a new addition to the zone is active and operating from same locality as Jim, but is out of the noise area. Uses two stage 6V6-807 Tx, "640" Rx, and 80 metre doublet. 2TA on ten and six but no details of gear. 2MN, Cec, has given Ham Radio away and shifted to another town. 2VT on ten and six, believed to be on vacation at the moment. 2AQ has had his call for a long time but never gets around to putting a signal on the air. 2WA is very quiet, but think he does a little on 20 metre phone. 2TV is active now, but has struck a snag in the form of a diathermy machine, operates at 0900 and 1700 hours. QRM permitting. 2AAN spending few days with Cec. 2AIK, and will return via Canberra to stay with Les 2PI. 2ANR and 2ASB, both back to Canberra for a couple of months. Both interested in 144 and expect to hear more about their activity soon. 2PI has CV6 on 144 and Ron 2PM also getting pieces together, he was also responsible for getting 2TV's gear into operation and are often heard working between Canberra Hospital and 2PM. Arch, 2GU, heard briefly on 40 and was asking for dope on 5JD's 50 Mc. signals. 2AOX heard strongly on 40, but quality was not as good as usual.

2OW very happy with new "640" and also keen to get on 20, re-building and guess Gordon will be on the DX shortly. Dick, 2RZ, called in on his way to Melbourne. Maurie Finlay, 2PW, dropped in for a few words as he returned from vacation in Melbourne. 2AID only station heard from Wagga and gear in operation was p.p. 807s, 15 watts, AR2 807 modulators, AR8 Rx. More dope on the Albury and Wagga groups next month, as the most active Ham in Albury will be sending some news.

2ABE and 2ADI are active in Bega and are inquiring about their old friend, Tubby, 2ANN. Roy, 2ABE, is using three stages on 40 and 20 and screen modulation; Jack, 2ADI, two stages and five-tube Rx. 2AMV very consistent signal and also very popular meeting place for members and XYLs. 2MT had 98 countries up post-war and should have the extra two anytime. Chas is likely to shout if you pass through Wollongong. 2LA still not active. Bill, 2WP, still mainly on 40 c.w. and phone and is likely to join the W.I.A. so he can read these notes!

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VICTORIA

The usual monthly meeting of the Division was held on Wednesday, 1st February, at the usual place of meeting, the Radio Theatre, where a fair attendance of members were present, undoubtedly more would have been present but the weather was certainly against things. The chair was occupied by Mr. W. Tregear (VK3TX) in the absence of the President (Mr. R. Cunningham) who is overseas.

A very fine selection of films was screened, the subjects being "The Merlin Aero Engine" and "The Turbo Jet Engine." The screening occupied about one hour, and an expression of appreciation was passed to Mr. H. Webber for having made these films available. After a short (?) "Smoko," the meeting resumed normal business.

Discussion took place on the State Convention and activities of the various groups. The usual box was passed around for "Food for Britain" and a goodly sum was again collected. Nominations were received for Federal Secretary and Mr. Max Hull, VK3ZS, was nominated. He expressed his desire to think the matter over for a few days. Mr. C. Gibson, VK3FO, was appointed Federal Councillor for the next 12 months.

We are pleased to report that Membership Certificates are now well on the way and as soon as things get under way again in the office the members will receive their Certificates, so a little more patience please boys. There are some at the rooms and these can be collected if anyone cares to call.

The Council has decided, owing to unforseen circumstances, that the rooms will be open from 10 a.m. to 4 p.m. We are happy to report that the A.O.P.C. Class, conducted by this Division is full, very c.b. Mr. Medhurst, of the Melbourne University, is the new lecturer, in place of Mr. Bob Toner who has resigned.

The V.H.F. Group is now very active and big things are under way. Quentin Porter (3IM) is chairman and promises greater activity on the v.h.f. [redacted]

PERSONALITIES

VK3AWW was seen with a bundle of QSL cards and a worried look on his face. VK3UM is raising a bit of QRM with his new Vauxhall. Have you got it suppressed Bill? A lot of signals eminating from around Kangaroo Grounds were heard, also some more from down Frankston way, on the National Field Day. It is pleasing to hear 3XD back on phone after a long time. 3FP has been transferred to Central Australia for a few months. 3BB is still going strong. Chas, must be one of the original and oldest Hams in VK land. Another old timer 3UG, formerly 3DP way back in the 200 meter days, is also active. Norm is not enjoying the best of health, but we all hope he will improve and cause a little more QRM.

TEST EQUIPMENT CONTEST

Only two entries were received for this contest held at the Victorian State Convention in January, 1950. One, a wide range signal generator, submitted by A. K. Head, and secondly, a pair of 2,500 Mc. field strength meter, a joint entry by K. McTaggart and A. K. Head.

The judges decided to award one prize; this went to A. K. Head for his signal generator. This instrument has been fully described in the November 1949 issue of "Amateur Radio."

The prize money of £5, all of which goes to the winner, was generously donated by A. C. Harris, VK3CH, of Birchip.

NORTH EASTERN ZONE

On 15th January, the mid-year Convention was held at Shepparton. Those present being VKs 3AT, 3KR, 3YV, 3APF, 3UI, 3XZ, 3FD, 3HZ, 3ACK, 3PF, 3PE, J. Harrington, K. Tenant, Ben Chilcott, K. McInness, and our old friend 3RT (Bob Toner). The President, 3AT, opened the Convention with his address recorded on a wire recorder, then the Secretary, 3APF, delivered his reading of the minutes in a similar fashion. Great interest was shown by all present in the recorder. After the President had welcomed the visitors, the boys settled down to general business and it was decided to change the monthly hook-up from the first Sunday to the last Sunday in the month. Same frequency and time as usual, 7050 Kc. at 1330 hours.

After the business was finished, there was an inspection of home-made gear, the items being absorption wavemeter (3KR), crystal controlled converter (3APF), auto bug key (3YV), 6 metre rig (3UI), 40 metre transmitter and receiver by 3FD, and also the zone's Bendix frequency meter. Then followed some weird and strange noises as several Hams recorded their voices on the wire.

The dinner which followed was something really worth going to Shepparton for and when it concluded, the boys split into two parties, one with 3APF and the others went to Tatura with 3UI. These two keen members then gave a demonstration of a.m. and f.m. duplex on 6 metres and also f.m. on 10 metres cross-band with 6 metres. By the way, Alan's 6 metre log reads like a busy 40 metre log.

Afternoon tea was then served by 3UI, after which some kind persons quietly did the washing up. All in all a very pleasant and enjoyable day was had by all and our thanks go to 3AT, 3APF and 3UI for making our mid-year show such a success.

This is the first zone convention that John Miller, 3ABG, has missed—was it because of work or is he heart-broken at having the front of his new

IMPORTANT

Would all Magazine Contributors please note that all contributions must be addressed to "Law Court Chambers," 191 Queen St., Melbourne, and NOT to the old box number.

Contributions, particularly notes, if addressed to the box number may not be received in sufficient time to be included in Magazine for the month for which they are intended.

M.G. bashed in? Hard luck John, what about a letter on the subject. Peter, 3APF, worked Bogong from Shepparton on 144 Mc.

CENTRAL WESTERN ZONE

As reported in the last notes, the Bendix power supply has been built and tested, and by the time these notes appear in print the meter should be ready for use by zone members. Its calibration is excellent, and checked 100 per cent. against the "A.F.T." transmissions per the W.I.A. While the meter is at 3YW we will be glad to give any frequency checks required.

Members are also reminded of those prizes donated by 3TA for v.h.f. work in the zone, and also for technical advances in other directions on 3.5 and 7 Mc., so don't hide your light under the bush and let us know all the doings.

Had a visit in person from our worthy President (3GN), a solid QSO for one hour resulted, to the annoyance of some pill swallowers. George is a busy man these days, and the "Radio Centre" suffers as the result, he is also unloading a lot of his disposals gear.

Our v.h.f twins, 3DP and 3AKP, are now busy building "Lenfo" four element beams in an endeavour to create bigger and better 144 Mc. sigs in Stawell and Deep Lead. 3AKP is also having trouble with the 14 Mc. beam in the way of crystallised bolts which have the habit of snapping off and causing the elements to do likewise, so apparently there is more to it than just putting them up and working the DX.

3AJO is still re-building. John has had so many brain waves since he started, they have gummed the works up properly. 3IQ has at long last departed for Melbourne, so Maryborough and districts there-abouts should be much quieter, best of luck, Kevin. 3XU has been right-up with the top draw over the past few weeks, entertaining the Governor and arrangements thereto certainly kept Gordon busy. Being busy, reminds me to tell you sleeping blokes about the zone hook-up. It's at 10 a.m. on the second Sunday of the month on a frequency of approx. 7155 Kc., will we be hearing you?

SOUTH WESTERN ZONE

My Geelong correspondent has again come to the rescue and I would like to place my thanks on record for the excellent job he is doing. His opening remark is usually to the effect that there has been little activity and then proceeds to give a page of dope. So let's get stuck into it. 3WT getting out nicely to the DX on 20 with his new rig. 3BU been bashing the 40 metre boys to the extent of over 50 contacts in a short while after Christmas. 560 Mc. has drawn another enthusiast in 3APG. 3AJT doing nicely with the DX on 20 and hopes to get his three element rotary on the tower soon. You certainly rock in here on short skip OM. Understand you have a nice location on top of a hill. 3ALG has his modulator going much better. 3BW is too busy to operate, and 3OM has not been heard for a while. 3ABK now working in Melbourne, expect to hear his portable call 3ABW shortly.

Heard 3AKR getting some good advice about XYLs from 3AGD and 3BI the other night. Maybe Kevin is jibbing. 3VA seems to have deserted 20 metres these days, probably "batching" did not suit him. Visited 3MH at his new QTH the other day. Very compact rig Mart has. 3ASV never heard and rarely seen these days, less QRM for your truly. 3AMH busy re-building final and cleaning up rig in general. Also building up a portable rig for holidays. 3GR heard on 40 metres, seems to have given 20 away, don't blame him either. 3HW is nearly satisfied that his four element is tuned, and has so far failed to live up to his New Year resolution of more listening and less talking.

I must take the opportunity of welcoming a new Ham, 3AVE, who is at the R.A.A.F. camp. Hope to hear you soon Vic. 2AAW, who used to operate from the camp, has now turned up as 4TU and nearly made a VK2 call, best of luck to you Bill.

Geelong Amateur Radio Club.—The first meeting for the year was held on 4/1/50, after the business of the Club had been discussed, members visited the shack of Dick Heighway, 3ARK, and inspected his gear. Undergoing alteration was a TA12D. The second meeting was in the hands of club member, Jack Mitchell, who chose for his subject, "The Theory of Wave Guides." This was new to members and proved interesting. The following meeting took the form of a field night and d.f. loop antennae were the order of the night, trying to locate the hidden transmitter operating under the club's call sign, 3ATL, and operated by 3WT. None of the members were successful in locating the transmitter in the allotted time. 3SY and 3ALG, who had struck trouble with their equipment and were late in starting, were only two streets away when the transmitter gave out its location. In spite of the wet weather, quite a few members joined in the fun.

QUEENSLAND

Notes for the month are very scarce, these notes being written during the annual vacation period. I was holidaying in VK2 and Ham Radio was given a complete rest. Our zone managers were evidently enjoying the holiday period and no notes were received from those sources. No! One exception, 4CG, who sent in some notes for the Downs Zone. Other notes contained herein were compiled by reading your mail since my return a few days ago.

Main items of news during January was the National Field Day. A few VK4s went out into the country, notables were 4CU, 4HZ, 4MF, 4KK, 4AP, and 4EL. Don't know of any others. Conditions were very poor and a few 7 Mc sigs heard here were little better than S4. Only exception being 4CU. Charlie has excellent gear for portable work and his phone was up to the usual f.b. standard. All except Charlie seem to have had a very lean time. Charlie made thirty odd contacts on 50 Mc. and finished the week end with well over one thousand points. 4XR and 4KK also got their share of the 50 Mc. break. Later we heard that 4AP and 4EL worked 19 countries, W.A.C. on 14 Mc. and gained 400 points on c.w. alone.

Speaking of 50 Mc., we often wonder why the Toowoomba gang don't operate on this band. 4CU never fails to fill a couple of pages of the log whenever he goes portable on the outskirts of Toowoomba. There should be a 24 hour a day channel between Toowoomba and Brisbane and surrounding district. VK2 boys at Katoomba told me that contacts with Sydney can be made any hour of the day or night.

The general meeting in February was presided over by the retiring President, 4AW. Attendance was very poor considering that the meeting was held to call for nominations for office-bearers for the coming year. Visitor to the meeting was G3DWI mobile marine. Nominations were received for all the positions with the following being filled unopposed, Secretary, 4TB; Treasurer, 4WJ, Station Manager and Emergency Communications Manager, 4FN; Q.S.L. Officers, 4EL and 4RO; Traffic Manager 4AG, Librarian, 4WF. A ballot will be held for the other vacancies. The position of Country Rep. will, for the first time in three years, be taken over by a new man. The retiring officer, 4SN, having served in that capacity since the creation of the position, will not be a candidate because other ties will prevent his regular attendance at the monthly meetings.

BRISBANE ZONE

4JA has completed an f.b. lattice tower some 30 ft. high on which he is going to hang long wires under a three element 20 metre beam. 4AP has forsaken 28 Mc. and was heard knocking 'em over on 14 Mc. in the recent B.E.R.U. Contest. 4GB was heard "mowing 'em down" during the National Field Day with a beautiful T9X note, was using Clapp osc. and 807 final, 23 watts and a 136 ft. matched impedance ant. Is believed to have W.A.C. and worked 18 countries in a 24 hour session. 4RO still using only an exciter unit and meditating what to put in the final! Goodness knows what will happen when he does decide on a final, as he made over 1,200 points in the recent B.E.R.U. Contest with 23-24 watts on the exciter, even working G on the 14 Mc. vertical BUT on 7 Mc.

4FJ not been very active of late, but has all the cards in for his DX C.C., also has between 60-70 countries on phone confirmed. 4EL has not been too active either other than helping to swel 4GB's N.F.D. score, however he has now sent away his cards for W.A.Z., only one more to get now Empire DX C.C. still a few more cards to get yet. 4HR also has not been too active, does not need to be, as talking of Empire DX C.C., Tibby has the only one in VK4 and we think the 2nd in VK. What to do now? Heard 4FN under his portable call, 4MF, recently from a local seaside resort putting out a good signal. Don't know how he manages to do it and at the same time keep the local W.I.A. transmitter going on multi-channels.

4MD has been trying out phase modulation and

been doing quite a good job with an 8JK beam. They say Mick is going to try a pair of good old triodes in the final soon! 4FB heard pounding the brass the other afternoon, quite a change from the old phone; long time since c.w. used I guess. How's the power noise these days Fred? 4RL has a nice big triode in the process of erection of a new final band-switched all bands. 4DN heard on 14 Mc. with a nice phone signal. 4NC heard often on 7 Mc. with a nice phone signal and is re-building at the moment.

TOWNSVILLE ZONE

Manager 4GD.—Wet weather prevented the gang from taking any part in the National Field Day. Anyway we understand that 4EL is the only one in the town with portable gear. A visitor during January was 2AHS, a mobile marine, 4TU, ex-3AAW, is leaving Townsville shortly for Manus Island. Another who is on Manus Island is Wal, ex-4WL. 4VH is back on the air with a new v.f.o. and a super duper phase modulation. 4RU on temporary transfer to Cairns. 4BX will be on the air soon with band-switched transmitter. 4EJ and 4GD spent the Xmas holidays on an island out from Townsville.

4WD, 4GD, and 4JH are busy working on 50 Mc. gear. We believe Joe is now the proud possessor of a new old car. 4DH has come down off the roof now that most of the v.f. is in the aerial. 4RW has a 450A but the magic eye just stares and stares, but a YN QSL card softens the blow. Bob and 4XD gave Ham Radio away the other day to go catching alligators at the local zoo. Bob adopted the magic eye method and hypnotised the brute, whilst Ken sat on the fence doing "nutting."

MACKAY ZONE

Manager 4KW.—District in the middle of the wet season and the boys having a quiet time. 4KH now has a four element beam. 4FH, last we heard of John was a big moan over an unexpected transfer.

BUNDABERG ZONE

Manager 4XJ.—Club gone into indefinite recess. One old timer, 4BJ, has given radio away and 4PG has left the State. 4UK, 4XJ, 4HE, and 4CW re still active, but the old Club needs a transfusion. Jack is the most active of the Bundy gang. 4HE is heard on 40 occasionally, but has not got the antennae erected at the new QTH yet.

IPSWICH ZONE

Not much heard these days of 4CH, but 4MW keeps Ipswich on the map knocking over the Europeans each evening at the rate of 12 an hour. 4ER building new power supply for receiver and after that Eric will probably get that 20 metre rotary. 4LD is using portable gear and contemplating new rig plus the vee beam. 4GG, heard the old iron horse going the other day on 7 Mc. and seems to be quite happy that one of the local b.c.l's. is leaving town. Nothing heard of 4LT lately. Albert either raising more poddies or plenty of DX on 20.

DARLING DOWNS ZONE

Manager 4CG.—Conditions have been very poor since November. As a matter of fact it is many years since the bands have behaved as they are doing now. African signals have been conspicuous by their absence around midnight on 14 Mc. and Europeans have been unworkable even around 5 to 6 p.m., which is normally a good period, and after midnight they are just not there. 28 Mc. has been a flop this year, even the Ws not getting through at any strength or regularity. 3.5 and 7 Mc. are bordering on the useless, what with QRN and QRM from commercials. We note more and more commercials on 14 Mc.—mostly with Soviet call signs.

Only activity of note has been at 4CU and 4XN—our 50 Mc. exponents. Charlie and Eric have been having the time of their lives working the stuff that comes through from VK2, 3, 5 and 2's. 4WY gets on 40 when the noise permits. No news of 4DA or 4BF. 4SG is interested in the emergency network and talks of building some portable gear in near future. There are a few budding Hams around Toowoomba but some are finding the exams rather tough—especially the morse, theory and regs.

We expect a 4LB to blossom forth here in the very near future with a "pansy" rig. 4KK is hibernating—weather too hot out on the plains. As usual the Warwick gang work secretly and without fanfare. 4CG not very active, but has managed to chalk up a couple of W.A.Cs. for the new year and work a couple of new (to him) countries to boot. Here's hoping that ere this appears as spots before the eyes that conditions will pick-up. 4XP, Geoff surprised all OTs by coming up on 7 Mc. phone. Big things here soon when Geoff gets his beam atop his new 100 ft. tower.

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SOUTH AUSTRALIA

The monthly general meeting for January was held to a full house when Mr. E. McGrath (5MO) gave a very interesting and instructive lecture on "Antennae." In doing so he covered all the types of aerials familiar to the average Ham and one or two not so familiar. The lecture was something of a record in two respects, one, in regard to its length, and two, in regard to the intense interest it created. Moving among the boys afterwards, I was a little dubious as to how they had taken the length of the lecture, but I had no need to make many enquiries as it was apparent that they had "lapped" it up, and without any exception they agreed that it could have gone on much longer as far as they were concerned. Once again it goes to prove that providing the lecturer is master of his subject he can talk on for hours and still keep them interested.

A real good show Ted, what about a repeat sometime? The proposer of the vote of thanks was naturally handed to the "umbrella man," in other words, Jim Sullivan (5JK) who is the uncrowned king of antennae in VK5. At the end of his suitable speech he was presented with a badge of office (an umbrella, minus everything but the ribs and handle) by "Sir" Warwick Parsons (5PS) on behalf of all present. Jim was quite overcome at the honour conferred upon him, and promised, somewhat sheepishly, to bring the badge along to all meetings.

Among the visitors present were Messrs. A. B. White (8AUP please note), R. Burg, C. Catmnir (5FY, ex-G3BNS), H. F. Treharne (2BM, President VK2), W. Russell (5WR), P. Walker (5PX), K. Harris (5AL), K. McKenzie (5KN), R. Grundy (5BG), P. Hancock (5RJ), C. Noble (5GY), and last but not least, my fellow scribe Lex Wallbridge (5UX). It was quite good to see all those country members and visitors present, and we hope to see them all again sometime.

5FH put on an unrehearsed act during the lecture. I just don't know what happened exactly, but there was a heck of a crash and he fell off the waste paper bin he had been sitting on and looked at the audience with a look on his face like Lot's wife, only he was not turned into salt, judging by the speed with which he retired to the back of the room.

Heard 5JU and 5JK discussing the merits and demerits of the "licorice stick" whilst in QSO the other night and I was trying to figure out what sort of an aerial this might be. It dawned upon me that Huck used to play one in the dance band, and probably still does, but Jim, don't tell me that you are thinking of taking it up, think of the neighbours. Can we book you up for a solo at the next Xmas social Jim?

Went down to Birkalla the other Saturday afternoon to see the amateur horse riders and was quite intrigued with the expression on one of the horses as he was being led around the ring prior to the races. It had a look on its face as if it was in love, or else had been hit on the head by a croquet mallet. I could not take my eyes off the animal, and all of a sudden I had a good look at the attendant with the horse, and the reason for its look became quite clear. The attendant was none other than Wick Bayly (5WM) complete with pipe (he had a hat on so I knew which was the horse), no wonder that the horse looked queer about the eyes. I have seen the same look on the boys' faces at the best broadcasting station in VK5 when Wick was puffing at full speed in the control room. Needless to say the horse ran a bad last and no wonder, fancy trying to run fast with a lungfull of Wick's "Bay Road Mixture."

5JD writes from Alice Springs to say that he has been QSO with quite a number of stations on six metres and thus giving them "W.A.S." He will be home by now and has promised further details, and maybe an article for the magazine.

The A.O.P.C. classes are almost ready to start and Mr. A. Sheard will be the code instructor again with John Allan (5UL) continuing as theory instructor. Recording permits were again issued to F. Holsten (5LK) and C. Tillbrook (5GL) for the ensuing year. VK5 members were very pleased to read of the credit balance by the Magazine Committee for the first three months under the new set-up, and are quick to extend congratulations to the Committee for a job well done.

5CA has tendered his resignation from the Council owing to his being QRL with examinations. In his resignation he asked us to what he would do with the membership certificates that he was working on for the Council. The President (5AW) told him very politely just what he could do with them, although I don't think that Brian will take any notice of him!

Ministerial approval has been received for the printing of 20,000 QSL cards for distribution to VK5 members by the South Australian Tourist Bureau. There will be 2,000 cards of each of ten scenes of Adelaide (The QUEEN city of the South) and full credit for this windfall must go to the Secretary (5MD) whose untiring work made it possible.

The VK5 frequency measuring station, 5DW, advises that checks are now available to members at any convenient time by ringing UA 6115 for appointments.

Heard 5DR on 20 the other day and he was putting in a good signal. I called him but he went back to a VK2 and so my chance to work a Kangaroo Islander was gone. He is using a vibrator supply, and has a small engine charging batteries to the transmitter whose input is twelve watts when the batteries are up.

Our genial QSL Officer, 5RX has been made a member of the "Old Timers" Club in U.S.A., and I should say that George has very nearly exhausted the supply of clubs and certificates available to him. The resignation of Dr. Ross Adey (ex-5AJ, now in G land) was not accepted by Council last month and it was decided to give him extended leave instead. A nice gesture I thought. Everybody at the meeting kept on asking me to go up to 5BY and address him as Mr. Ironmonger. Why Dougal? VK5 is again the first State to secure W.A.S. on six metres. The general opinion among the v.h.f. gang is that they were taken for a ride with the new rules, but all's well that ends well unless some new rules are in the offing!

Commodore Cotton (5LG) has been seen cruising around the Port River of late, although he had a go at fixing up the compass. I believe he has been relegated to the galley. 5TW has been fairly quiet, on ten and twenty mostly, although he has been heard on forty occasionally. How's DX Tom? 5MS has still another aerial, this time it is a G8PO, and as he continues to work the DX, there must be something in this aerial business. You have been putting in a solid signal down my way Stewart on twenty lately. 5JA has been rewarded at last, he worked five VK2 stations on six metres, and as this was his first success on that band, John is feeling very pleased. Understand that he is leaving for England shortly and that we might hear him from the old country.

5CH has been on two metres but so far has only worked 5JA. Claude has been fairly busy on the bush fire net and this does not leave him much time. 5FD has been out on the farm for a while and so radio has been forced to take a back seat for a while, although John has been heard on forty at times. 5KU has been heard on forty and twenty but is still getting the bugs out of his rig. They take some finding don't they Erg.

5CJ is becoming more active in more ways than one and Col says to tell "Doc" that he is using Rinso (there's something here that I don't understand, of course, that is the treatment that I have always had from our charming and respected Secretary, why I can't even get him to write me a letter). Anyway Col, has put up a new 50 ft. pole and by the time these notes are read he will have another one. He has been on 40 with five watts input and has been getting quite a few contacts, although nothing doing on two metres as yet, but you never know.

A little birdie has whispered in my ear that our charming and respected Secretary is about to throw in the towel. This is bad news in more ways than one, as nobody has done more to build up the VK5 Division than "Doc," and he will sure be missed. Anyway it has not been confirmed as yet, but I am worried because the chances of my getting that letter from him don't seem too rosy. I suppose that he can write, must check up on that.

There is no doubt that being the scribe for VK5 has its moments, I receive letters from Editors, General Secretary, people who reckon that they could run the column better than I can, and all sorts of letters from begging, to pats on the back. However recently I received a letter from a real live Justice of the Peace, none other than my old friend Charlie, 2BH. Here I have been in contact with him and giving him the lowdown on how to break into safe deposits and various other places and probably when I am caught I will come up before him for trial. Let this be a warning to you fellows, and thanks for the letter, Charlie.

Last month I wrote a lot of drivel as fill in, and along came some notes from the Northern gang and everybody said, "what does he think the magazine is printed for, just for the VK5 notes." This month I lay off the drivel and no notes come from the Northern gang, and now I suppose they will all say, "why doesn't he write some VK5 notes, what does he think the magazine is printed for, just for the other States? Wouldn't it.

In closing for this month I would like to say, that in answer to the many Hams who have asked me how I manage to critise my fellow Hams and still retain their friendship, I once read the following, "If it is very painful for one to critise one's friends, one is quite safe in doing it. If, however, one takes the slightest pleasure in doing it, that's the time to hold one's tongue."

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WESTERN AUSTRALIA

The W.A. Division's first meeting for 1950 was fairly well supported. One visitor signed the book, 6BP, Mr. T. W. Binns, who was seen later in the evening obtaining a membership application. Making his first visit to a metropolitan meeting was old-timer 6RT. Len told the members his future activities would be centred in far away Cue—he shouldn't have too much local QRM up there! Another new country member was approved by the meeting, 6AV, Mr. John Kitney, of Donnybrook.

Once again it was necessary for our Vice-President 6KW to take the chair—good training, Ron! On

view for members was a trophy donated by 6WG, Wally Green, of Albany. Details are not yet available but it will be for a contest among the country members.

6GM, our Federal Councillor, reviewed the results of the 19th Annual Convention to refresh memories prior to preparing the agenda for this year's effort. On behalf of the local Contest Committee. 6DD gave a hint of future fixtures—another Emergency Portable Contest in April and, of course, a 7 Mc. "Scramble" about June. Blow the cobwebs out of that 40 metre gear, fellers!

A feature of the v.h.f. news was the interesting item that local 2 metre boys had at last worked outside W.A.! All the way across to Rottnest where 6AG had his 522 mobile rig working well. 6SA rather shook the meeting with some very pertinent points about our Divisional Constitution and, following some discussion, it was decided to go into the matter a little more closely.

Discussion of agenda items for the forthcoming Convention occupied most of the remainder of the evening. One very interested party who has to wear a deaf aid rather amused the meeting with an occasional burst of feedback as he cranked the gain up a bit too high. Hope you don't think it's r.f. feedback OM!

The final business of the evening was the presentation of certificates to the six State winners in the recent "R.D." Contest: 6RU, 6GA, 6KU, 6FW, 6MB, and 6DX. After this pleasant duty, the meeting broke up into rag-chewing groups as usual.

PERSONALITIES

'Tis said the Geraldton gang are considering offering their services to the local Council to speed up that precious A.C. 6CN particularly, as Cyril has not had power of any description since last year. 6EL reports awaiting the elusive South American QSL to confirm his W.A.C. Ern says his W.B.E. looks lonely on the shack wall. 6GH is again threatening activity. I believe he has a nifty looking 50 Mc. converter nearly ready to tick. Another VK6 sold on the idea of a Geraldton holiday is 6AY. Hope we hear you on again soon OM. 6TP has been heard chasing CQs on ten lately, better get a beam up there OB. Ask 6LL.

6WS is the proud owner of a new Communications Receiver—should be able to hear some DX now Skipper! Ham Radio has been given a back seat in the 6AS establishment, the reason, a smart looking Ford 10! You'll have to go mobile now Alec! 6PJ now sporting a three element clothes drier on 20 metres, but finds the modulator hasn't been the same since he dropped that microphone! 6MU at Merredin reports the DX bands as being only fair just now. Mal was pushing out quite a fair signal with an FS6 operating from a 6 volt battery. Well that's about all this month chaps, but just a parting shot. Was told the other day of the clueless Ham who, listening on ten metres to a few locals rag-chewing, wanted to know if a Housing Commission permit was necessary before "building-out" a modulator! Almost a stop press item is 6RS' purchase of a real classy microphone and, as Ron has at long last become a plate modulation addict, the phone is now f.b.!

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TASMANIA

NORTHERN ZONE

Conditions here have been very poor, consequently those Amateurs not working on the higher frequencies have been having rather a lean time, perhaps now that the 50 Mc. band is showing signs of closing, conditions on the lower frequencies will improve. At present there isn't one really active DX station operating in the zone. 7LZ having migrated to 50 Mc. and 7RK is at present building himself a new receiver.

On 7 Mc., 7MC and 7XW are quite active on phone with 7BQ and sometimes 7PF keeping skeds of a Sunday morning. 7LZ moved on to this band on sked one evening to give KP4HU a VK7 on this band; not to be outdone, 7BQ made one of his rare appearances on 14 Mc. and had an f.b. phone QSO with a W5.

50 Mc. has been getting more than its share of attention by 7BQ, 7PF and 7LZ and although nothing better than ZLs have been contacted from this zone, many interesting QSOs have been had. 7PF's 144 Mc. receiver has been returned from Victoria and Peter is now getting all fired up to work a VK5. 7DB, 7MC and 7BQ are also active on this band as also is 7TE when he is not fiddling around at Palm Grove. No, we have not finished yet, 7BQ has now got a transmitter working on 576 Mc. and is at present building his receiver.

It looks as though 7BQ can teach most of us a thing or two because besides all this, Len is rebuilding his 28 Mc. beam and this time a four element array for 144 Mc. is going to keep it company on the lattice mast. Inactive Amateurs at present are 7AM, 7NL, 7HY, 7GD and 7RB.

The shock of hearing that 7LJ is now on phone has proved too much for me so I will have to relax until after our next meeting. This is to be held at the King's Hall, Launceston, on Friday, 10th March, at 8 p.m.

CORRESPONDENCE

The opinions expressed in these letters are the individual opinions of the writer, and do not necessarily coincide with those of the publishers.

SUGGESTION FOR CERTIFICATES

Alice Springs.

Editor "A.R.," Sir,

I feel that a more suitable title for the V.H.F. W.A.S. Certificate would be "The Ross Hull Memorial Certificate."

The late Ross Hull was undoubtedly the greatest v.h.f. pioneer known to Amateur Radio.

To name this Certificate in honor of this great Amateur would be a small, but fitting, tribute to him and the work he carried out.

Hoping this suggestion will be favourably received by the fraternity, particularly the v.h.f. enthusiast.

—J. M. GOULTER, VK5JD.

INTERFERENCE TO AIRCRAFT LOCATED

Dept. of Civil Aviation,
532-536 Lt. Collins St.,
Melbourne, C.1.

Editor "A.R.," Sir,

In the February issue of "Amateur Radio," a letter from this Department was published requesting information from Amateurs operating in the 28-30 Mc. band on certain specified dates.

However, since writing that letter, the interference in question has been eliminated and there is now no need for the information requested.

The broadcast station interference which has been troubling aircraft working Melbourne Control Tower for some months, has finally been eliminated. The originating source was found to be emanating from a private house at West Preston.

For some time, and as indicated in the previous letter, the interference was thought to be a cross-modulation effect, but later development showed the interference to be basically a 118.1 Mc. carrier on which was super-imposed the modulation of the broadcast station to which the receiver was tuned.

With the assistance of the P.M.G's. Department, the source was located by directional finding methods in the area mentioned and further checks isolated the faulty receiver, which was removed for laboratory tests.

The tests showed that the set was oscillating the power output stage which used a type 42 pentode, the actual oscillations occurring in the cathode circuit. At the present time, the reason for the oscillatory action has not been finally determined, but is suspected that a Hartley circuit is involved or that it is brought about by a Transit Time effect.

The modulation heard by the aircraft was simply that to which the receiver was tuned, as this signal modulated the electron stream through the valve and in turn amplitude modulated the spurious oscillations. Because of the condition of the receiver, the owners listened to one broadcast station for a large percentage of the time during which the set was in operation.

It was also discovered that the speaker leads, which were not twisted, provided a very efficient radiator, being cut during construction to a length almost exactly equal to a half wavelength at 118.1 Mc.

The nature of the defect cleared up several aspects of the interference which had at first been attributed to cross-modulation, these points being enumerated in the previous letter.

The intermittency can be accounted for by the fact that the set was not in continuous operation and that at times a lengthy warm-up period was necessary before the oscillations developed.

The variation of signal strength was caused firstly, by the changing conditions in the receiver which caused slight frequency variations and the apparent change in signal strength which was caused by the modulation depth, i.e., volume control setting.

Maximum volume control setting produced over-modulation of the radiated signal which accounted for the distorted reproduction at times reported by aircrew hearing the interference.

During the course of the investigation, one other important point was discovered, and that was the subject receiver was radiating on about ten frequencies between 100 and 130 Mc., and it was by pure chance that one of these frequencies coincided with the control tower frequency.

At the present time, efforts are being made to duplicate the condition in another set to allow fuller investigation, but so far, these attempts have been unsuccessful.

—W. L. MILNE,
for Director-Gen. of Civil Aviation.

APPRECIATION

Editor "A.R.," Sir,

During Xmas holidays I went to VK3 to have a look-see what some of these blokes who inhabit the Ham Bands looked like and so on. I got many surprises, the chaps I imagined to be youngsters, voted for Federation, and vice-versa, and the ones I thought would be short and slim were, I found, like "Pansy" Parsons (sorry Warwick, but one must have a standard to compare with). Old or young, fat or thin, they turned out to be a bunch of real f.b. scouts.

On New Year's Day a party comprising VKs 3FO, 3RV, 3BZ and Mr. Len Jackson and their families invited me to join them on a private field day-cum-picnic to Mount Dandenong. Two and 40 metre gear was used and some very nice contacts made. On another occasion 3FO took me to see Norm Cullivan 3UG who is living in retirement at Rhyr. Norm is one of the oldest Hams in VK and is still active and made us very welcome. Another old-timer I met was Charlie Whitelaw (3BH). Charlie is one of the 1908 vintage and passes his time fining drunks and car bashing on 144 Mc. and 14 Mc. After 15 days in the Melbourne area we went to Ballarat, the city of statues and thanks to Bob, 3GR, who arranged our accommodation, and Bert, 3VA, who put himself and car at our disposal, we spent two very full days. (I said the days were full, "Pansy.") On 8th January we just had to leave and come back to prepare for the daily round and save enough to visit VK3 again.

In conclusion, I would like to thank all the boys and their families for the wonderful hospitality extended to me and for the opportunity of seeing some very fine rigs. To the many whose invitations I had to decline, I say thanks, but there will be a next time. Thanks gang for a wonderful time.

—LUKE, VK5LL.

HAMADS

9d. per line, minimum 2/-.

Advertisements under this heading will only be accepted from Institute Members who desire to dispose of equipment which is their own personal property. Copy must be received by 8th of the month, and remittance must accompany advertisement. Calculation of cost is based on an average of six words a line.

FOR SALE.—AMR300 Receiver in first class order, 14 Mc. Command Transmitter, what offers? UW9141 or MA1139. Ned White, Woodland St., Baulkham Hills, Sydney.

FOR SALE.—Radio Mast, selected tapered Oregon, two-piece, 60 feet, down and ready, £5. J. Metcalfe, WF 4726.

FOR SALE.—Type 3 Mark II. Transceiver, as new with spares, £30 or offer. Ferguson 50 watt modulation transformer, £2. W. R. Jardine, Box 52, Leor gatha, Victoria.

FOR SALE.—VT105s and VT104s with sockets. 12SG7, 12A6, 12J5 and 12AH7. I.F. Transformers 1500 Kc. and 456.5 Kc. One Kingsley 6 metre converter One 2" 0-3.5 amp. R.F. Meter. No reasonable offer refused. B. Falkenberg, Byaduk, Victoria.

SELL.—AR7 Receiver complete, rack panel, seven coil boxes. Reasonable offer. G. Elliott, 39 Rosina St., Kangaroo Point, Brisbane.

SELL.—AT5 T'mitter and H'book £7; Class C Wavemeter, spare valve, calibration chart, £4; Meters: miniature 500 microamp. and uncal. Pullen 1 Ma., £1 each; new Palec valve tester x'former, £1; new Dynamotor, 24v. in, 240v. out at 70 Ma., £1/10/-. Valves: metal 6SK7 (4), 6SA7 (2), 6SJ7 (2), 6H6 (1), 6K6GT (1), 955 (1), £5 lot. VCR97, £1. F. Hill, c/o. Radio Australia, Shepparton.

SELL.—New BC348Q in Trimax Communication Cabinet, plus b'cast converter, heavy duty power supply, speaker, 200 Kc. to 18 Mc., £42/10/- or offer. F. Hill, c/o. Radio Australia, Shepparton.

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Arthur J. Veall Pty. Ltd.
Homecrafts Pty. Ltd.
Radio Parts Pty. Ltd.

VICTORIAN DISTRIBUTORS:
Howard Radio Ltd.
A. G. Healing Ltd.
Healings Pty. Ltd.
Motor Spares Ltd.
Warburton Franki Ltd.
Lawrence & Hanson Ltd.

INTERSTATE DISTRIBUTORS:

NEW SOUTH WALES:
U.R.D. Pty. Ltd.
Homecrafts Ltd.

QUEENSLAND:
B. Martin Pty. Ltd.
A. E. Harrold.

Denradio Industries (Maryborough).
J. Michelmore & Co. (Mackay).

SOUTH AUST.:
Gerard & Goodman Ltd.
Newton McLaren Ltd.
Uebehaun & Johnstone Ltd.

Radio Wholesalers.

TASMANIA:
Lawrence & Hanson Ltd.
Noyes Bros. (Aust.) Ltd.